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HOW TO BECOME
AN ALPINIST

JOS. LOWREY.



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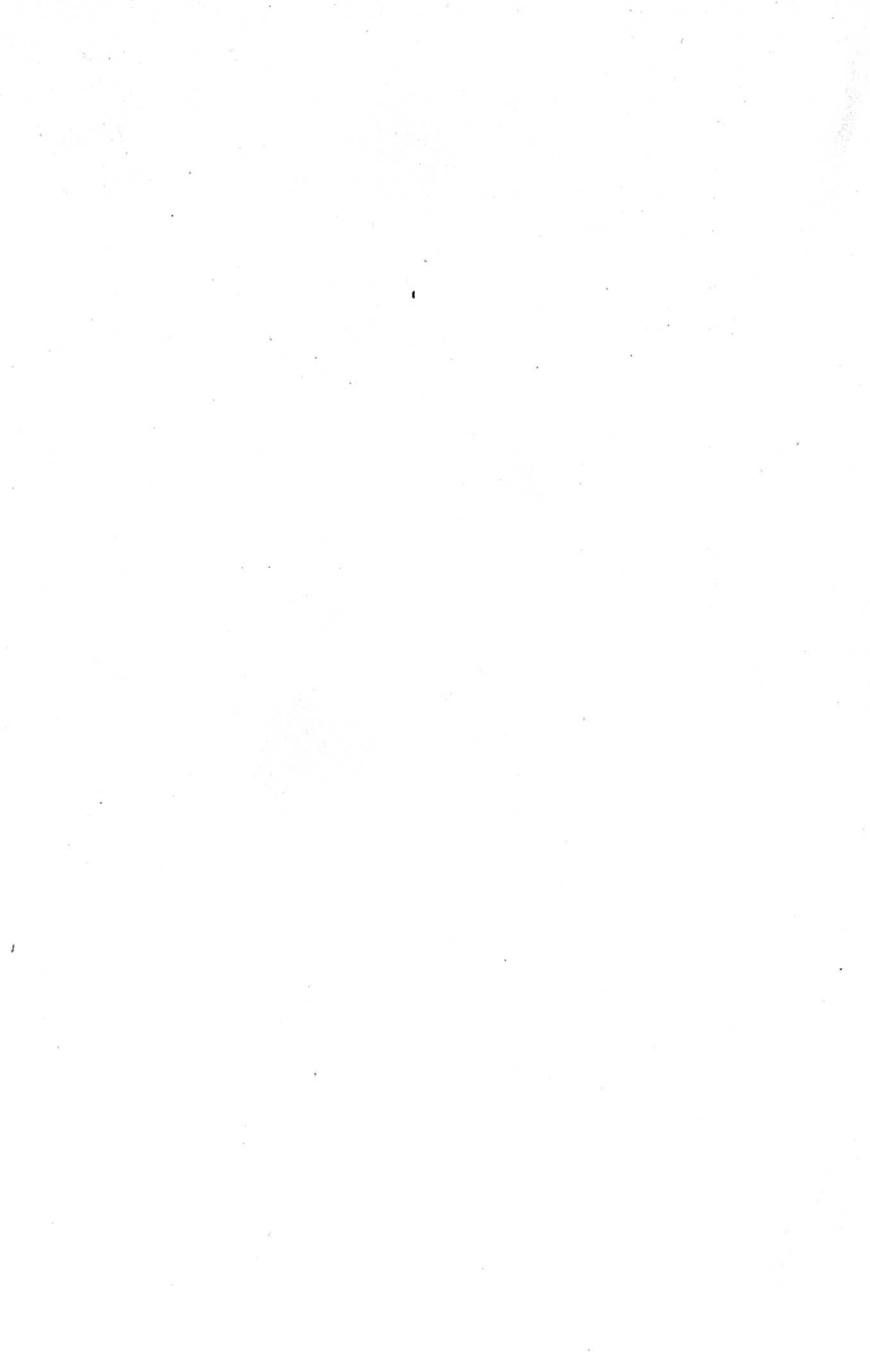
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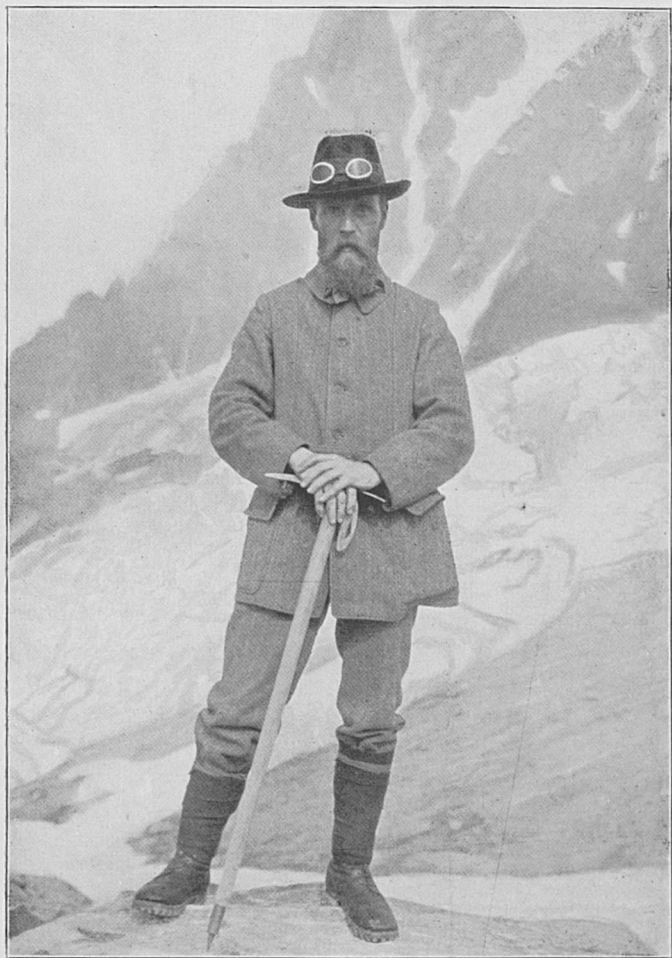
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"The Man who Kinematographed the Matterhorn."

HOW TO BECOME AN ALPINIST

BY
FREDERICK
BURLINGHAM

(The Man who cinematographed the Matterhorn)



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ILLUSTRATED
WITH SIXTY-THREE
PHOTOGRAPHS BY
THE AUTHOR

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CONTENTS

	PAGE
I. THE LURE OF THE MOUNTAINS . . .	3
II. CHOOSING AN ALPINE CENTRE . . .	11
III. EQUIPMENT AND TRAINING . . .	17
IV. TWO ACCIDENTS ON MONT BLANC . . .	35
V. EXCURSIONS FOR BEGINNERS . . .	45
VI. CINEMATOGRAPHING THE MATTERHORN . . .	59
VII. WHY ALPINE ACCIDENTS HAPPEN . . .	73
VIII. IN AN AVALANCHE PATH . . .	79
IX. SOME FAMOUS WOMEN ALPINISTS . . .	91
X. WHERE GUIDES ARE TRAINED . . .	103
XI. PLAYING WITH DEATH . . .	115
XII. ROCK CLIMBING ON THE CLOCHETONS DE PLAN PRAZ . . .	129
XIII. AMONG THE RED NEEDLES . . .	145
XIV. THE GRAND ST BERNARD HOSPICE . . .	159
XV. CINEMATOGRAPHING MONT BLANC UNDER DIFFICULTIES . . .	169
XVI. ON AN ALPINE FUNICULAR RAILWAY . . .	187
XVII. IN AN ALPINE BLIZZARD . . .	197
XVIII. HINTS ON ALPINE PHOTOGRAPHY . . .	207
XIX. HOW TO GET KILLED IN THE ALPS . . .	213

LIST OF ILLUSTRATIONS

MR FREDERICK BURLINGHAM	<i>Frontispiece</i>
"The Man who cinematographed the Matterhorn"	
	TO FACE PAGE
THE AIGUILLE DU DRU, 12,317 FEET, THE AIGUILLE VERTE, 13,540 FEET, LES COURTES AND LES DROITES, SEEN IN THE DISTANCE; AND THE MOINE, 11,214 FEET, PHOTOGRAPHED FROM THE COL DE LA BUCHE.	6
THE BREITHORN, 13,685 FEET, SEEN FROM THE GORNERGRAT ABOVE ZERMATT	6
THE MER DE GLACE	14
THE VILLAGE OF LES HOUCHES IN THE VALLEY OF CHAMONIX IN THE SHADOW OF MONT BLANC	14
MONSIEUR LAUGEL AND THE GUIDE, JULES BURNET, ON THE PETIT CHARMOZ	24
IN THE GRANITE CRAGS OF THE PETIT CHARMOZ, A FINE TRAINING GROUND FOR ALPINISTS	24
GUIDES IN DIFFICULTIES AT THE CREVASSED "JUNCTION" WHILE DESCENDING. PIERRE CASOLI, WHO WAS STRUCK BY LIGHTNING ON MONT BLANC	42
HIS LAST VOYAGE ACROSS THE ETERNAL ICE	42

MADAME FREDERICK BURLINGHAM AND THE GUIDE, AUGUSTE PAYOT, CROSSING A CREVASSE AT THE "JUNCTION" ON THEIR WAY TO THE GRANDS MULETS	52
AT THE GRANDS MULETS, WHERE ONE SLEEPS BEFORE CLIMBING MONT BLANC	52
THE MATTERHORN, 14,705 FEET, SEEN FROM THE PATH ON THE HÖRNLI	60
FIRST CONTACT WITH THE MATTERHORN PRECIPICES .	60
BRITISH AND COLONIAL KINEMATOGRAPH CARAVAN ARRIVING AT THE HÖRNLI CABANE ABOVE THE CLOUDS	64
APPROACHING THE MATTERHORN CRAGS	64
THE SUMMIT OF THE MATTERHORN	68
MR FREDERICK BURLINGHAM WITH CINEMATO- GRAPH CAMERA ON THE SUMMIT OF THE MATTERHORN. MONTE ROSA IS SEEN IN THE DISTANCE	68
SUNRISE ON MONT BLANC	74
CREVASSES IN THE GLACIER DU GÉANT	74
MR BURLINGHAM AND PARTY ON THE SUMMIT OF THE AIGUILLE DU MOINE MONT BLANC AND THE CHAMONIX NEEDLES ARE SEEN IN THE DISTANCE .	86
LUNCH AT 11,214 FEET	86
MRS FANNY BULLOCK WORKMAN, THE HIMALAYAN EXPLORER, WHO HOLDS THE WORLD'S ALTITUDE RECORD FOR WOMEN, 23,300 FEET	90

MISS ANNIE S. PECK, HEROINE OF MONT HUASCARAN IN PERU	90
Mlle. MARVINGT, THE FAMOUS FRENCH CLIMBER, IN A TICKLISH PLACE ON THE AIGUILLE DE TRÉLAPORTE	92
MRS AUBREY LE BLOND, THE WELL-KNOWN PRESI- DENT OF THE LADIES' ALPINE CLUB OF LONDON .	92
MISS DORA KEEN, OF PHILADELPHIA, WHOSE EX- PLORATIONS IN THE ANDES AND ALASKA HAVE ATTRACTED ATTENTION	94
FRAULEIN ELEONORE HASENCLEVER, OF FRANKFURT- AM-MAIN, WITH THE FAMOUS GUIDE, ALEXANDER BURGENER, WHO LOST HIS LIFE ON THE JUNG- FRAU	94
FRAU VINETA MAYER, OF VIENNA, IN THE FAMOUS CHIMNEY ON THE ZIMMER, RAX, IN AUSTRIA .	96
MADAME MADELEINE FRANZ NAMUR, DAUGHTER OF M. J. VALLOT, OF THE MONT BLANC OBSERVA- TORY	96
FRAU KÄTHE BRÖSKE, OF ZABRZE, PREUSSISCH SCHLESSEN	98
FRAULEIN MIZZI WOLF, A FAMOUS VIENNESE AL- PINIST	98
ON THE GLACIER DE SALEINOZ AFTER HAVING DE- SCENDED THE SNOW SLOPE SEEN IN DISTANCE .	108
LOOKING SOUTH-EAST FROM THE FENÊTRE DE SALEINOZ ACROSS VAST SNOW DESERT TOWARDS THE POINT DES PLINES, LE DARREI AND LE TOUR NOIRE	108

	TO FACE PAGE
MONT BLANC AND THE BRÉVENT	120
SERACS ON MONT BLANC NEAR THE GRAND PLATEAU. TRACES OF A FALLEN AVALANCHE ARE SEEN BELOW THEM	120
SCALING A PERPENDICULAR WALL ON THE CLOCHETONS DE PLAN PRAZ	134
ASCENDING A CHIMNEY WHICH HAD NEVER BEFORE BEEN CLIMBED	134
MADAME LÉONTINE RICHARD ON THE BACKBONE OF THE BELVÉDÈRE AMONG THE RED NEEDLES	148
CROSSING SNOW FIELD WHICH LEADS DOWN TO THE VALLÉE DE BÉRARD	148
MADAME LÉONTINE RICHARD AND THE GUIDE, EMILE DUCROZ, ON THE SUMMIT OF THE BELVÉDÈRE	152
AT THE STEINMANN ON THE BELVÉDÈRE, THE HIGHEST POINT AMONG THE RED NEEDLES	152
IN THE VALLEY OF THE DEAD	158
CARAVAN ARRIVING AT THE GRAND ST BERNARD HOSPICE	158
CURIOSITY OF ST BERNARD DOGS	162
STATUE OF ST BERNARD ON THE SWISS-ITALIAN FRONTIER	162
ST BERNARD MONKS, WHO ARE GREAT ALPINISTS, TAKING DAILY EXERCISE WITH THE DOGS	164
"DOES SOMEONE WISH TO BE RESCUED?"	164

AT THE "JUNCTION" OF THE TACONNAZ AND DES BOSSONS GLACIERS. WITH MICROSCOPE GRANDS MULETS REFUGE MAY BE SEEN ON NEAREST ROCK NEEDLE	172
EXERCISE BEFORE DINNER ON THE GRANDS MULETS NEEDLES	172
THE REFUGE AT THE GRANDS MULETS AND THE AIGUILLE DU MIDI IN THE BACKGROUND .	176
BRITISH AND COLONIAL CARAVAN ARRIVING AT THE REFUGE VALLOT, OVER 14,300 FEET. THE VALLOT OBSERVATORY IS SEEN BELOW .	176
BRITISH AND COLONIAL CARAVAN, INCLUDING MRS BURLINGHAM, ON THE SUMMIT OF MONT BLANC	180
MR FREDERICK BURLINGHAM ON THE SUMMIT OF MONT BLANC, THE HIGHEST POINT IN CENTRAL EUROPE	180
THE SWINGING RAILWAY NOW UNDER CONSTRUCTION UP THE AIGUILLE DU MIDI	188
TYPE OF CAR USED BY WORKMEN	188
TYPE OF CAR IN WHICH TOURISTS WILL "SWOOP THE SWOOP." PHOTOGRAPH REPRODUCED THROUGH THE COURTESY OF CERETTI & TANFANI OF MILAN	190
ALPINING WITHOUT EFFORT	190
AMONG THE SERACS OF THE "ICE NIAGARA" IN THE GLACIER DU GÉANT	200

MONT BLANC, 15,781 FEET, SEEN FROM THE COL DE LA SEIGNE IN ITALY	200
COUNT DE DONNAU, OF PARIS, TAKING IT EASY AFTER SOME STRENUOUS CLIMBING	208
CREVASSES IN THE MER DE GLACE	208
THE PIC DU TACUL, GRANDES JORASSES, MONT MALLET AND THE DENT DU GÉANT SEEN FROM THE MER DE GLACE	216
CROSSING THE GLACIER BLANC ON THE WAY TO THE BELVÉDÈRE IN THE AIGUILLES ROUGES	216

The Lure of the Mountains



HOW TO BECOME AN ALPINIST

I

THE LURE OF THE MOUNTAINS

THAT the high, white mountains are getting a tremendous hold on the imagination of the ordinary travelling public is evidenced by the rapidly-increasing number of tourists who visit the Alps each year.

During the season *trains de luxe* now run regularly from most of the large urban centres direct to some special point in the Alps. In Switzerland alone over forty funicular lines supplement these express services, and excellent mountain hotels are springing up like mushrooms throughout the country. The ordinary traveller may take advantage of reduced fare excursions and circular tickets to visit consecutively several of the famous alpine centres during his two weeks' holiday, and often the price of such tickets, which is extremely reasonable, includes hotel accommodation as well.

According to recent estimates upwards of a quarter of a million tourists visit Chamonix, at the foot of Mont Blanc, each year, and other centres in the Dauphiné Alps, Bernese Oberland, the Valais, the Engadine and

in the Tyrol have their share of visitors. At Chamonix not long ago, during August, when people were sweltering in London and Paris, the rush to the foot of the glaciers overtaxed the hotel accommodation. In the overflow tourists were forced to sleep under the same roof with cows, others scrambled into the vacant railway carriages on a siding, the local priest threw open his church to others who wished to doze in the pews, and an enterprising manager of a cinematograph show kept open all night. In the morning I encountered an Englishman, covered with dewdrops, who told me he had slept out all night in the forest. At Zermatt the crush was better managed, for the Vierge-Zermatt branch railway, on this occasion, refused to transport anyone not having a room engaged.

It is the psychology of this crowd, however, that is interesting. Not many years ago the mountains inspired awe, if not a secret terror, in the bosoms of those who gaped below. Most of the summits were virgin, being considered impossible to climb. Peasants thought, as the Indians of Peru believe still, that the mighty peaks were inhabited by evil spirits. Now it is the reverse, for the majority of tourists have scarcely a healthy respect for the glaciers and precipices. They are not like the Georgian I met a few years ago at Grindelwald, who started for the Eismeer, but having to pass the churchyard, stopped a moment to look at the alpine graves, which gave him such a shudder that he returned to the hotel saying the piazza was good enough for him. There is a scramble to reach some summit; the dangers, being hidden, are

thought not existent, consequently young and old climb in search of glory, edelweiss or a snapshot, and with a new-born enthusiasm heedlessly take chances with Fate where the older generations would have stopped to consider. As Mr J. M. Bulloch, editor of the *Graphic*, expressed it the other day, it is "Democracy triumphant on the dizzy peaks!" And democracy is usually a bit reckless.

Again, in this age of disrespect one may think lightly of religion, existing institutions, the idea of the family and civilization with a certain amount of immunity, but one may not treat the mountains as a joke without imminent danger, for they will take their revenge. These masses of ice-covered granite are an appalling reality.

The trouble is, many amateur climbers going to the Alps for the first time do not realize the actuality of these masses of granite, the immutable forces of Nature, and being unprepared for the conflict are vanquished and are left buried in some crevasse, to be found by experienced guides, or else the plaything of Nature's disintegrating forces.

According to the mortality statistics for 1912, the last available, 140 accidents took place, the number of victims being 165. Of these, 66 were Austrians, 49 Germans, 24 Swiss, 7 Italians, 6 French, 4 English, 2 divers, and 7 of nationality unknown. It is singular to note that 88 per cent. of these accidents, it has been estimated, were evitable. The number of minor accidents resulting in broken members is beyond conjecture. In nearly every known case the cause

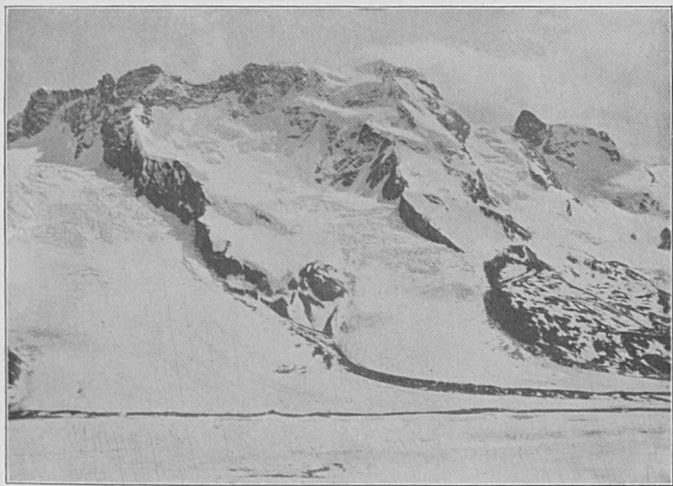
was inexperience, ignorance of the simple technique of climbing, disrespect for the mountain, or the fact that trained guides had been dispensed with.

With Switzerland rapidly becoming the playground of the world, and alpinism a sport for the crowd, it is in the interest of everyone concerned, except probably the undertakers, that the few basic rules of mountain climbing should become known generally and put into practice. This past season was particularly deadly, fatal accidents occurring frequently throughout the Alps, and in the mountains imprudence was met with on every hand.

Late in August, to mention my personal experience, I climbed Mont Blanc with a cinematograph. At Pierre Pointue, on the way to the Grands Mulets, considerable blasting was being done in connection with the construction of a new funicular line up the Aiguille du Midi. We were warned in time to find shelter by our guides, who were watching for these signals, and, standing in safety, watched the dynamite send down rocks within a few feet of our heads. It was a miracle some English tourists, not understanding French and who were in an exposed position, were not injured. Near Pierre à l'Echelle, we ourselves were bombarded by an avalanche of stones and ice falling through natural causes from high up on the Aiguille du Midi. If one takes the Pierre Pointue route up Mont Blanc there is always danger in passing the avalanche *couloirs* even on the run. Imagine our surprise, therefore, to see a party of four tourists, two of whom were mere children, climbing without guides in one of the deadly



THE AIGUILLE DU DRU, 12,317 FEET,
the Aiguille Verte, 13,540, Les Courtes and Les Droites,
seen in the distance, and the Moine, 11,214, photographed
from the Col de la Buche.



THE BREITHORN, 13,685 FEET,
seen from the Gornergrat above Zermatt.

gullies. Our guides shouted warning again and again without their taking heed. An avalanche near by, however, awoke them to their danger and they retreated. On the other hand, however, how often such foolhardiness ends in a tragedy!

At the Grands Mulets at dusk, while Cachat was serving dinner, someone called out that a lone tourist slowly was coming up the steep, crevassed snow slope. We all got up to look at this extraordinary piece of imprudence. One sees nowadays so many strange things in the mountains, however, that no one thought of going to meet him. An intermittent watch was kept, and had he disappeared in a crevasse, a search party undoubtedly would have left the *cabine* to the rescue. As he neared the refuge he stopped repeatedly and so long in the snow that my wife went out to call and cheer him along. Naturally he proved to be a German! He said afterwards that this did give him courage to continue. When asked what he was doing he replied that he had left Chamonix for a walk to Pierre Pointue, that once there he decided to go on to Pierre à l'Echelle at the edge of the glacier, and seeing the Grands Mulets across this vast expanse and fresh tracks in the snow, continued climbing. The next day I allowed him to rope into one of our two caravans, and was amazed at his ignorance of mountain technique and how one so little sure-footed ever got across alone the night before the *jonction* where the Glaciers des Bossons and de Tacconnaz meet. It being physically impossible for him to carry out his programme of climbing Mont Blanc, we were forced to leave him, until

our return, tucked in blankets at the Refuge Vallot. It appears his room in Chamonix faced Mont Blanc, which lured him away. I understand the mountain lust, which is another form of wander lust, but cannot think how a sane person could attempt such a climb so ill prepared, without technical knowledge, and alone!

On our first attempt to reach the summit of Mont Blanc we were caught by bad weather and high wind at the Bosses du Dromadaire, at an altitude of about 14,500 feet. Two days later I learned that this storm had been fatal, for a Swiss, exhausted, froze to death the same day near by where we were. He was one of a party of three which had made the ascent by the Aiguille du Goûter unaccompanied by guides. If one climber on one mountain in the course of three or four days encounters so many cases of imprudence, is it any wonder that throughout the Alps scores are killed annually?

The lure of the mountains may be strong, but there is a way to climb the most difficult without diminishing the pleasure and with the minimum of danger.

Is not this knowledge worth while?

Choosing an Alpine Centre



II

CHOOSING AN ALPINE CENTRE

ALPINING, naturally, may be practised wherever there are mountains to climb.

There is a distinct advantage, however, in learning the rudiments of climbing in the well-known alpine centres where there are trained guides and traditions. The experience of many years gained from many countries has been concentrated in places like Zermatt, Grindelwald and Chamonix, and one may learn there in one season more than an average man alone and elsewhere could pick up in a lifetime. Climbing with first-class guides in well-known alpine centres presents the minimum of danger, while climbing alone, without experience, is hazardous in the extreme.

The choice of one of the well-known centres is rather a question of taste. From London or Paris the traveller pays nearly the same price for his through ticket, and hotel prices vary little. At almost any alpine resort excellent accommodation may be had for ten francs a day, room and food included, and for a prolonged stay better terms may be had. Naturally one may pay much more for his *pension* and sometimes considerably less by seeking rooms away from the beaten track. It is always advisable to arrange definitely the terms upon arrival, and, as already

suggested, to engage rooms beforehand if the holiday is taken at the height of the season, which is during late July and early August. At this period, however, good *pension* rates are obtained with difficulty.

Among the most famous alpine centres in Switzerland is Zermatt at the foot of the Matterhorn, Grindelwald under the Jungfrau, and Pontresina near the Bernina group in the Engadine; in France the best-known centre is Chamonix at the foot of Mont Blanc; while on the other side of the mountain, in Italy, is Courmayeur, whose famous guides have played a very important part in the exploration of the Himalayas. Courmayeur, having no railroad, is less accessible than many other alpine centres, but just for this reason it retains a distinctive charm, while the Mont Blanc range, seen from the south side, is a mass of precipices as magnificent as any in the Alps.

Elsewhere in the Alps are numerous less-known centres where one may still find excellent guides, but the probability is that while they know the mountains of their locality they are not universal like the principal guides of Zermatt, Grindelwald, Chamonix and Courmayeur. These latter guides keep turning up almost anywhere, and it is very common to find Zermatt guides at Grindelwald, Chamonix or Courmayeur, and *vice versa*.

It is impossible to name all the attractive climbing centres to be found in the Alps, but among the better known in France are La Grave and Bourg d'Oisan in the Dauphiné Alps, St Gervais at the foot of the Aiguille de Bionnassay and Mont Blanc; in Italy,

Breuil on the Italian side of the Matterhorn; and in Switzerland, Saas Fée at the foot of the Mischabelhörner group, St Nicholas and Randa in the Zermatt Valley, Lauterbrunnen under the Jungfrau, and Innsbruck in the Dolomites.

For the more ambitious, however, the Canadian Rockies offer exceptional opportunities to explorers, for most of the mountains there are uncharted and unnamed, although the Canadian Pacific Railway has opened up the country and has established Swiss guides along its route at Banff and at Glacier.

Climbers, too, are becoming more and more interested in the Andes, partly on account of their great height—many of the peaks are over 20,000 feet—and because the climate in many of the valleys below is eternal spring.

A wideawake alpinist in Peru, moreover, might have the pleasure of discovering remains of a prehistoric civilization, as quite a number, I believe, have been found recently. In the Caucasus and in New Zealand there are mountains full of interest to climbers.

During a recent tour of the Caucasus the Rev. T. T. Norgate claims to have seen at least nine mountains higher than Mont Blanc, hitherto considered Europe's highest mountain, although, until a careful delimitation of the frontier is made, it would be difficult to say whether these mountains are in Europe or Asia. Mount Elbruz, which was recently ascended by Mr Douglas Freshfield, who found its summit 18,520 feet high, or nearly 3000 feet higher than Mont Blanc, is undoubtedly in Europe.

The coming paradise of alpinists, however, are the Himalayas, which dwarf all the rest. In spite of the explorations of the Duke of the Abruzzi and the indefatigable Mrs Bullock Workman, who has made eight expeditions there, and many other climbers, this vast glacial region is little known and full of surprises. At least one mountain has been found there which dethrones Mount Everest, which hitherto has been charted and placed in school books as the highest mountain in the world, for an isolated peak in the Karakoram branch of the Himalayas has been found which rears its head 30,000 feet in the clouds, or nearly 1000 feet above the highest point of Everest.

Now that the two poles have been discovered and the bottom of the sea out of the question, it would not be surprising to see public attention soon directed towards the ascent of the highest Himalayan peak, an undertaking probably more difficult, more costly and more dangerous than the discovery of either the North or South Pole.

It is significant to note that nearly all the great climbers and explorers, such as the Duke of the Abruzzi and Mrs Workman, got their training in the Alps, starting modestly with the ascent of an easy pinnacle.



THE MER DE GLACE.



THE VILLAGE OF LES HOUCHES
in the Valley of Chamonix in the shadow
of Mont Blanc.

Equipment and Training



III

EQUIPMENT AND TRAINING

SOME time ago, while passing Les Ponts above the Mer de Glace, the still air suddenly vibrated with a faint, despairing cry.

We stopped to listen. Mountain cascades leaping from leaking glaciers broke the silence, but, strain our ears as we might, no other sounds were audible except the occasional roar of an avalanche. Our first guide, Hubert Charlet, shrugged his shoulders, and following his example we recommenced our hasty steps towards Montanvert and Chamonix.

Again a cry of terror reached us! This time there could be no mistake, and our guides immediately freed themselves of their rucksacks. Where did the sound come from? It seemed to be discharged into the air from no particular direction. Calling in English, French and German consecutively, my companion finally got a reply in French that immediate assistance was needed.

Several hundred feet above us, in a steep gully, two figures indistinctly could be seen clinging to some projecting pinnacles. Fortunately, an English alpinist also happened to be passing, and seeing the desperate predicament of the two climbers, courteously offered his two guides and rope. With a warning to us below

to watch out for stones, the four guides, without losing a moment, and apparently without a thought of their own danger, started up the *coulloir*.

It appears that two novices, both Swiss, got lost near the foot of the Aiguille de l'M, and in trying to descend towards the Mer de Glace slipped and fell, but managed somehow to lodge on jagged rocks, where they were mountain fast, being able neither to descend nor reascend. So ugly, in fact, was their position that the guides could not reach them, and they were extricated one at a time by means of rope thrown to them from above.

They had been hanging more than two hours on the crags with the faint hope of attracting by their cries the attention of a chance caravan passing. Darkness was coming on, and one may imagine their despair. When rescued, they were exhausted, and one of them declared afterwards that he could not possibly have held on twenty minutes longer.

Hubert and the other guides, as so often happens in the Alps, acted as if the part they played in the dramatic incident was of no particular importance, while the two rescued Swiss felt one supreme moment of pure gratitude. Their parting words were repeated thanks, coupled with a vow to leave hereafter the mountains alone.

The point about such an incident, many of which each year do not end so happily, is that these two novices went about climbing in the wrong way. They were not used to the high mountains, were in strange territory without guides, were ill-equipped and worn

out with fatigue through lack of training. Miraculously they escaped death, but like hundreds of beginners got such a fright that their nerves were shaken probably for all time to come.

One terrible fright is sufficient to end the career of a would-be alpinist, and I know of more than one guide who has slipped on a fatal precipice and received such a sensation of terror that it has ended his nerve to do great things. Such guides afterwards cling to the classical courses, leaving those of unshattered nerves to explore new and unknown slopes.

To begin with, not everyone can become an alpinist. Only those of a robust constitution and a heart which works well should undertake such violent exertion. And if one has a tendency to dizziness he had better confine his ascents to peaks frequented by cows. The beginner, however, one physically and mentally fit, should start with simple walks, keeping to mule paths until he gets accustomed to heights and precipices. When one begins to feel at home here he may try the goat paths, or undertake, with guides, small excursions somewhat more ambitious. One of the cardinal rules of mountain-climbing, however, is never to go alone, and this applies even to those following mule trails.

I recall an example of this folly of going alone which nearly ended in disaster. A young American, whose family were in Geneva, came over to Chamonix for a few days and indulged in a number of the fine walks thereabouts. On this particular occasion, not knowing anyone, he started out alone for the Bellevue Pavilion

on the Col de Voza, 5945 feet, which is a simple walk presenting no danger whatever if one keeps to the path. In returning, however, the young man tried to take a short cut, got lost, and as darkness was coming on, slipped and kept sliding until he landed astride of a tree leaning out over a precipice. Below him was the void, and above it was too steep to return. He shouted himself hoarse for help, and fortunately was heard from below by a goatherd, who went for help.

This took considerable time, and it was several hours before the peasants from Les Houches with ropes could dislodge him from his perilous position. According to the story told by the rescuers, the young man promised each one a purse, but the following day the American disappeared and never has been heard of since.

Another incident of tragic simplicity occurred on the Glacier du Géant. Guides of a passing caravan coming from the Rifugio Torino asked our guides if anything had been heard at Montanvert of an Austrian who had left for the French side alone. Against the advice of guides he had attempted to pass the great ice fall in the glacier. All that is known is that he never returned to the Italian refuge and never arrived at Montanvert. The probability is his body lies at present somewhere in the middle of the glacier at the bottom of some crevasse.

Upon arrival in one of the large alpine centres such as Zermatt, Grindelwald or Chamonix, the novice would do well to purchase at once a suit made of loden, or

similar cloth, which is warm, waterproof, and strong enough not to tear on the rocks. Such clothes may be found ready-made almost anywhere in Switzerland for 50 or 60 francs, or made to order for 10 francs more. If one wants style, prices, naturally, are higher. Clothes worn by the guides, however, are admirably adapted for mountain wear, and besides containing numerous very large pockets, in which one may carry a lunch, the coat is so cut that it buttons right up to the neck, with a large collar that may be turned up in cold, windy weather to protect the ears. Most tourists, nowadays, and many guides, wear short trousers, on the theory that they allow freer use of the limbs. Personally I prefer the old-fashioned long trousers and spiral puttees, as I find in both snow and rocks that the legs are better protected. When not climbing the puttees may be taken off and placed in the rucksacks.

Perhaps more important than clothes are a good pair of mountain boots. These may be purchased before starting, or on the spot, for about 35 francs, but should be bought sufficiently large to admit two pairs of woollen socks, a light and heavy pair. One of the dangers in the mountains is frozen feet, and besides keeping the feet warm this double pair of socks acts as a cushion to protect them. It is advisable to have the boots nailed in the alpine centres, as the bootmakers there know better than anyone else how to do this. Each locality has certain preferences for nails, so that the expert may tell a Zermatt boot from one nailed in Chamonix, but the difference is so unimportant that it may be ignored. It is in the Dolomites that the

difference is striking, for there nails rarely are used, the climbers wearing boots with rope soles.

Some time ago, when climbing the Aiguille du Moine, above the Mer de Glace, I had the occasion to note the disadvantages of climbing with cheap city clothes and pasteboard shoes. In descending from the summit one of our party, a Parisian, wearing an ordinary suit of clothes, left the seat of his trousers behind on a sharp rock. He said he felt a bit cold, but succeeded in getting down safely. At the alpine refuge at the Couvercle we found the guide of another party busy with a second Parisian, wrapping his feet in rope, his city shoes having burst in the sharp moraines. Owing to a pair of city shoes the climb had to be abandoned! All of which goes to prove that a man may climb without trousers but not without boots.

With a suit of loden, nailed boots and a large rucksack—small ones have a tendency when filled to take the form of a ball and consequently are uncomfortable on the back—the beginner is ready to commence training. With an alpenstock costing one franc, or, better yet, an ice-axe costing about 15 francs, he may begin with walks lasting two or three hours, gradually lengthening his walks without, however, bringing on great fatigue. As one grows accustomed to the rarefied air and the muscles become supple, all-day walks may be undertaken, for it is not difficult to find good mule trails going up seven or eight thousand feet. It is very important in ascending that the stride be even, the entire foot solidly placed on the ground, and the pace

at the start very slow. The reason for this is that the heart must adjust itself gradually to the violent strain, and if one goes rapidly at first, stopping frequently to catch breath, the adjustment does not take place. As a rule, if the heart begins racing, the climber may feel sure he is going too fast.

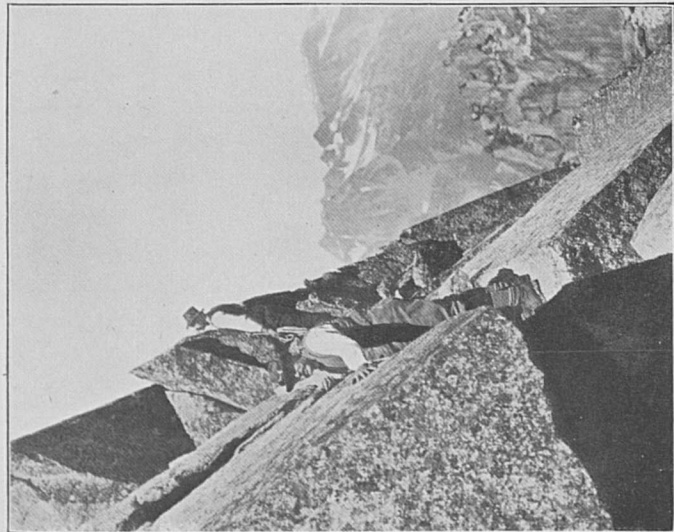
It is an ordinary sight in the mountains to see trained alpinists outstripped by tourists in a great hurry, who smile with derision at the tortoise pace of the former; but if one could see the picture higher up, the alpinists, who rarely stop, would be seen gradually increasing their speed, while the tourists would be lying on the grass holding their stomachs or leaning against a tree and breathing like a blown cab horse.

For the novice who proposes later to do some big climbs it is just as well that he get accustomed to carrying an ice-axe, for it is useful even where there are neither snow nor ice. In descending the mountain side, for instance, after a long walk, short cuts may be taken, and by placing the pointed end of the ice-axe on the left side, or *vice versa*, and by holding the axe end with the right hand and leaning on the handle with the left, the alpinist not only will find it almost impossible to slip, but where the mountain side is sufficiently smooth and steep he may slide down, using the axe as a brake. In principle the ice-axe always should be carried on the side of the mountain and never on the side of the void; in the former case, if one slips the axe may be used as a brake, as just explained, but if it happens to be on the outside it is practically useless. Beginners generally lean on their axes and carry them

on the side of the void, and are constantly menaced with a fall by the axe breaking through its hold. On snow or ice it is even more important that the ice-axe be held properly, for not only is it the instrument by which one maintains his equilibrium, but often it is the only means of checking the descent in case of a slip.

There are several models of ice-axes, including the Chamonix, Grindelwald and Pilkington, which differ very little, and the choice from these is much a question of taste. The handle is made of ash and the pick of iron tempered very little, and this has a resistance greater than steel, which breaks occasionally when the point comes in violent contact with a rock. It is preferable that the ice-axe be a little heavy, for one soon gets used to the weight and finds the solid ice-axe more serviceable. The length of the ice-axe is again a question of taste, but if after trying it several times one finds it too long, the shop selling it usually shortens it without charge.

In making glissades in the snow with ice-axes it is extremely important that one knows where he is going. Some time ago while descending Mont Blanc near the Petit Plateau a party of two were sliding in the sun and soft snow. A little further down the slope was in shadow and the surface frozen, and without taking this fact into consideration, the party, without warning, found themselves on steep ice instead of snow, and being unable to stop, were precipitated at a frightful speed into a crevasse and killed by the impact.



MONSIEUR LAUGEL AND THE GUIDE JULES BURNET
on the Petit Charmoz.



IN THE GRANITE CRAGS OF THE PETIT CHARMOZ,
a fine training ground for Alpinists.

Just what the equipment of an alpinist should consist of is a question difficult to decide. Some climb with pockets empty, while on the other hand I had the pleasure of meeting this summer on Mont Blanc Monsieur and Madame Henry Maige, of Chambéry, both distinguished alpinists, without guides, but with a small portable cooking stove. They must have found this practical, otherwise they would not have transported it up Mont Blanc, which probably is the most fatiguing climb in the Alps. A quart Thermos bottle, which will keep coffee or tea hot indefinitely, comes very near being a necessity, for a cup of hot tea at a high altitude may be taken at a critical moment when the stomach refuses all other nourishment.

A positive necessity for climbing in the snow are spectacles, or rather goggles, fitted with dark glasses to shut out some of the blinding light. Opticians recently have declared that yellow glasses are better than blue or black ones; nevertheless, the blue and black glasses are in more general use. Almost everywhere in the mountains one finds also specially-prepared small tubes of cream to protect the hands and face against the reverberation of the sun's rays on the snow, which rays have a terrible power in high altitudes. When the celebrated guide, Jacques Balmat, climbed Mont Blanc for the first time in 1786 with Dr Paccard, without having taken either of these two precautions, he returned with eyes red, the face black and the ears blue, while Dr Paccard was snow blind for three days. These goggles, or lunettes as they are called at Chamonix, should be constructed so as to allow air to circulate

next to the eye, and when not needed can be carried on the hat ready for instant use.

In an alpine sack one may carry an extra shirt and extra pair of socks, slippers for reposing the feet in mountain huts, woollen mittens, a folding lantern with a candle for nocturnal walks, a compass, a corkscrew, several handkerchiefs, matches, a cap which one may pull down over the ears, which is very handy in case of high wind or excessive cold, a flat aluminium cup, a knife with can-opener, aluminium egg-holders, and a box of the same metal for carrying some fruit or cooked vegetables, tubes of concentrated soup, bread, sugar, tea and chocolate and preferably light things to eat, such as chicken, for in the mountains one eats often, almost every two hours, but very little. Cooking utensils are found in most of the first-class refuges, but it is often necessary to carry up some firewood. Some climbers chew prunes while climbing, which keeps the throat from getting too dry. For the same reason one talks very little and breathes through the nose. In principle carry up only things strictly necessary, for at certain altitudes heavy loads are deadly.

As excursions commence often at two or three o'clock in the morning, one should remember that nothing is warmer and more practical than a newspaper placed under the vest against the chest and the back. When the sun arrives and one commences to scorch in the snow the newspaper may be thrown away, having served its purpose, which lightens the load; it is thus better than a sweater, which must be carried.

Most alpinists wear light woollen underclothes.

They offer a great protection against cold or, what is more important, the rapid changes of temperature which one finds in the mountains. Climbing in the sun one perspires freely, while in the shade a few steps further on it may be freezing hard. Flannel shirts, such as are generally employed in all the sports, are excellent. However, I know an alpinist who has his shirts made with the collar very large, so that when needed he can turn up the collar to protect his neck and ears.

When the beginner has had some training and begins to feel comfortable on snow and ice, he can take a guide to visit one of the mountain huts, sleeping there, and leaving before dawn in order to become familiar with night walking and the use of the lanterns. On nearly all big ascensions these very early starts are necessary, and nothing is more unsettling to the amateur than to climb above abysses at night with a small lantern. It is by these trial excursions, however, that one develops the energy and sang-froid to climb to the difficult heights. After a fatiguing course one should take one day at least of complete rest, for an excess of uncontrolled enthusiasm may undermine the health and turn, therefore, a hygienic sport into a positive danger. Even if it is a one-day climb, one should start at a very early hour, that is three or four o'clock. One escapes climbing in the hot sun, which is very trying at low altitudes, but once above the snow-line the heat is tempered by cool breezes.

Another reason for climbing early in the day is that before the sun rises the mountains are frozen tight and

there is little danger of falling stones. Later, when melting begins, stones becoming free may dislodge and cause an accident. Falling stones and avalanches are among the greatest dangers in the Alps.

One should decide with the guide the evening before on the exact hour and be ready. The guide generally comes after one or makes a rendezvous. After a quick breakfast prepared the night before and heated on an alcohol lamp, one fills his sack with provisions and objects needed, and hanging the ice-axe under the arm, begins the climb. The first impression is delicious; one feels like running, but when the upward climb commences the walk should be slow and cadenced, and one should breathe deeply.

The understanding with the guide consists generally, simply, upon the starting hour. It is the habit, I believe, to question the guide as to what kind of weather may be expected, after which conversation is dropped, as it interferes with respiration. Arriving at one of the mountain chalets, one may have a second breakfast, but one remains only a short time, for the early hours are precious. It should be remembered that guides are not professors of alpinism and rarely explain why they do things. If there are two guides in the caravan, and there is something grave to decide, especially so if the tourist is a novice, it is almost certain they will decide it among themselves, talking patois. Among their fraternity they have signs, such as three or four stones placed one on top the other, to show the way, but these secrets they do not divulge to tourists. Sometimes their turning-point is when they hear

plainly in the distance a mountain cascade. Some guides, I believe, have developed these little signs to a fine art, such as spitting always to the right.

If in ascending in snow, therefore, the splashes are seen to the right, the previous caravan is still ahead; but if found on the left, the caravan has descended. It follows, therefore, that to create these guide-posts, or rather guide-holes, one should chew something that gives a dark-brown expectoration, such as liquorice, prunes or tobacco.

The theory of alpinism comes not by asking questions, but by observation and only after long experience.

When the thirst is very great, drink a little tea or coffee. Some guides carry up a great deal of wine, which is a bad habit and sometimes becomes dangerous. Dr Hunter Workman, the celebrated Himalayan explorer, told me not long ago that while crossing a difficult passage in the Tyrol his guide was taken with the delirium tremens. It was his turn, therefore, to become guide, and they got down only after the greatest difficulty. After long experience he has found that it is better not to drink any alcohol in making an ascent, but afterwards a little whisky taken in a cup of tea aids in relieving the stiffness of the muscles. Not long ago I made a climb in the Mont Blanc range, starting with a young man who insisted on drinking a glass of absinthe. He was quite accustomed to this glass down in the valley, but it made him ill and consequently he had to abandon his climb. Smoking is almost as bad as drinking. For carrying tea or coffee flat gourds made of aluminium specially for mountaineers are much

more agreeable to carry than heavy glass bottles. No matter how great the thirst, never eat ice or snow. The effect is very bad; besides, it makes the lips crack painfully. Finally, it is always wise to have a reserve of provisions in case of being forced to take refuge in a mountain hut on account of a storm which may last several days.

Climbing in the rocks, where two hands are necessary, the ice-axes are sometimes left below, where they may be refound in descending, but more often one suspends them from the wrist by means of a strap of hemp made specially for the purpose. On some ascensions one may find use for crampons, or climbing-irons, which are adapted to the feet for use on ice slopes, as they save one the trouble of continually cutting steps; and some climbers use raquettes, or snow-shoes, which prevent one sinking to the knees in soft snow.

One of the most delicate of all operations is the handling of the rope, with which one becomes expert only after long experience. The debutant has no great need of a rope. His guide, if it is necessary, will carry one. But an alpinist should have a good rope of Manilla hemp, about half inch in diameter, which one may find in any first-class alpine shop. This rope should be examined seriously inch by inch after each excursion, to see whether it has been cut by rocks. Silken ropes are very light and very expensive, but they are agreeable if one can afford them. The length of the rope varies, but 100 feet is sufficient to rope together four persons, the habitual distance maintained between each climber being about fifteen feet. On diffi-

cult climbs, however, it is a wise precaution to have rope in reserve in case of need.

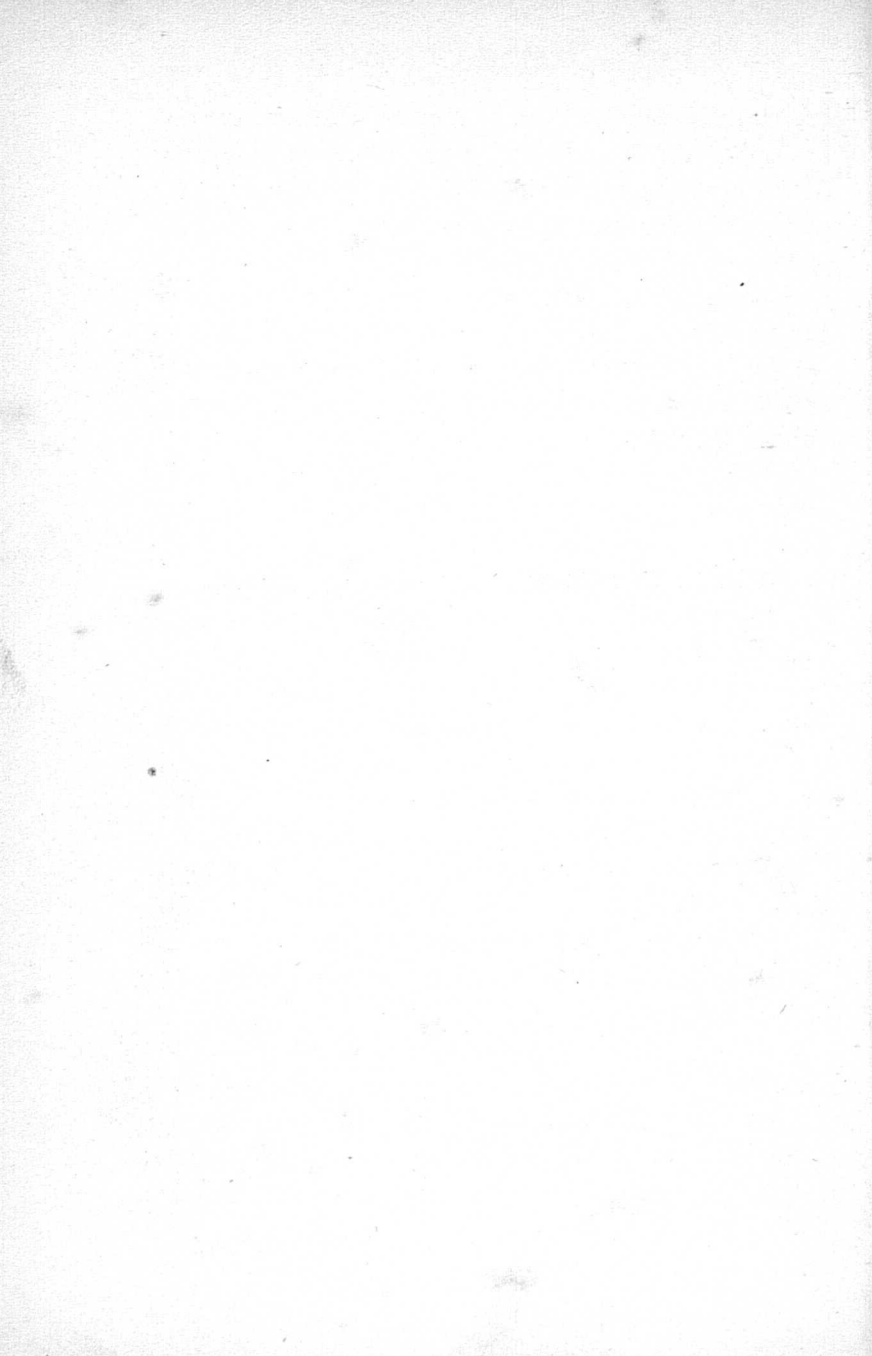
When four persons are roped together the guide generally goes first, the two tourists following, and the porter last. In descending, the order is reversed, the guide descending last, to hold up the others in case of a slip. In attaching a caravan one forms a simple loop, arrested by a knot, which is passed around the waist so that the knot and rope are both on the left side. In principle the rope should never be allowed to trail, for it may catch on a rock and cause a fall of stones, sometimes fatal for those behind. Another reason is that if the rope is dragging and one of the climbers falls his weight comes on the others with a jerk and may carry them all down. On the other hand, the rope must not be held too tightly, as in case one of the party attempts to jump a crevasse he may be pulled violently backwards into the abyss. To prevent either accident happening one carries part of the rope in loops, which easily can be played out or held tight as the occasion may demand.

In rock-climbing the rope is of great assistance. The first guide climbs to a place of safety and instals himself securely, after which the second on the rope advances, while the others play out the cord attentively. This process is repeated until all are past the danger point. On steep snow or ice the effect of the rope is moral rather than practical, for if one falls all the others are likely to follow.

There is no finer exercise than mountain-climbing. Ascensions are made in an atmosphere absolutely pure

and in sunlight unknown in the valleys. On the summits one meets with unexpected panoramas of marvellous splendour, which have a healthy influence on one's ideas. And besides the ever-changing vistas there is the pleasure of struggling with the mountain, often menacing and sometimes fatal. It is in struggling with the forces of Nature that the individual develops courage, energy, sang-froid, prudence, decision and initiative. The mountain, therefore, is a great educator.

Two Accidents on Mont Blanc



IV

TWO ACCIDENTS ON MONT BLANC

IN a little café near the village of Bossons, just in the shadow of Mont Blanc, a small group of guides were drinking white wine and clinking glasses.

I happened to enter in searching for the guide, Auguste Payot, whom I wanted for a short climb. The conversation was animated and reminiscent and I joined them in a glass.

"Do you know, Monsieur Burlingham," interrupted Emile Ducroz, a hunter of amethysts, "that to-day is the one hundred and fourth time I have been up Mont Blanc, and that it is the record?"

I had just been over the Col du Géant with Ducroz, returning by the Col de la Seigne and the Col du Bonhomme, and I was interested in his exploits.

Payot was in the group drinking as well as M. Simond, celebrated as a maker of ice-axes.

"Well, Ducroz," I replied, "by the time you are seventy you will have broken all records for all time."

This porter is in the prime of manhood—forty-four, I believe—and one of the most perfect walking machines I ever saw. I have seen him go fourteen hours without stopping, arriving fresher and at a greater speed than at the start.

"I shall stop climbing before I am seventy," he replied.

And we got to talking about Mont Blanc, its ways of indicating bad weather, and some of the accidents which are marked in red letters in its history.

"How long do you think one might live in a crevasse, Ducroz?" I hazarded. "They tell me a man was pulled out alive after more than seven hours!"

"It was I who pulled that man out," said he, the smile suddenly disappearing from his face. "This is the affair of the piolet."

I should explain that a friend of mine on the Glacier du Géant slipped and lost his piolet, or ice-axe, in a crevasse, and that the guide loaned the tourist his to pass the steep ice-fall. I had asked Ducroz what he would do if he dropped his piolet in a dangerous place.

"Impossible! I should never drop my ice-axe!"

"But about this staying alive in a crevasse," continued Ducroz. "The weather had been bad, and I was on Mont Blanc at the time waiting at the Grands Mulets when I heard a report that one of the guides had fallen into a crevasse near the Grand Plateau.

"This was in August 1902. The accident happened this way: MM. Henry Mauduit and Jean Staelling, both members of the French Alpine Club, left Chamonix to do Mont Blanc with a guide named Blanc, of Bonneval-sur-Arc, and a porter named Culet from the same village, intending to pass the night at the Refuge Vallot. At four o'clock in the afternoon, while on the Grand Plateau, a storm broke upon the party. Still they continued the ascent, but near the Col du

Dôme the violence of the wind was so great that an attempt was made to retreat. In the wind, flying snow and clouds, they became completely lost, and decided to dig holes in the snow and spend the night. By working to protect their tourists the guide and porter managed to keep from freezing, but the cold was too much for the other two and they died in the morning. It was found too late that they had camped all night without knowing it within twenty minutes distance of the refuge and safety. Blanc and Culet decided to descend as quickly as possible. In their haste Blanc slipped and went into a crevasse about 130 feet deep, though without seriously injuring himself. Calling to Culet, who was trying to see down into the deep blue chasm, the unfortunate guide told him to rush on to the Grands Mulets for help. In his haste Culet slipped, and going head first into a crevasse, was killed instantly. Out of a party of four, only the guide was left alive, and he was at the bottom of a crevasse 130 feet deep, where he was without any means of summoning help. Not knowing that Culet was dead, he waited patiently, filled with hope.

“Strange as it may seem, the accident, miraculously, had been seen in Chamonix, 10,000 feet below, through a telescope. The telescope guardian, in seeing two men descending rapidly early in the morning, had divined something was wrong and watched them. Soon afterwards he saw one was missing, and then saw the lone figure precipitated into a crevasse. He gave the alarm in Chamonix, and without delay a relief caravan of guides was on its way. The Grands

Mulets, however, is seven hours above Chamonix, and even if guides could get there in five, still they were a long distance from the supposed scene of the accident.

"Guides waiting at the Grands Mulets naturally knew nothing of the accident, but divined something was wrong when they saw the relief caravan coming up at full speed.

"When the relief caravan arrived at the Grand Mulets and had told the story I was determined to find out whether Blanc was dead or alive. The others had come up from a sense of duty and were without hope. We pushed on, however, as rapidly as possible. Higher up most of the party were in favour of turning back, saying that it was of no use to continue, that after all these hours the man was dead wherever he was. Fortunately for me another caravan was coming down, headed by the guide Ravenel, and I explained the situation to him.

" 'I have no food,' said he.

"I told him I had some bread, cheese and wine, and as he volunteered to assist we sent down our tourists with those returning. The search then began in earnest. Passing crevasse after crevasse, we searched minutely for traces of those missing.

" 'Blanc, where are you?' I cried repeatedly.

"The precipitous slopes under the Dôme du Goûter sent back echoes but all else was silence. Before turning back I was determined to fathom the mystery.

"Suddenly I heard, or thought I heard, a faint answer.

“ ‘ Did you hear that? ’ I whispered.

“ ‘ No. It’s your imagination,’ he said. ‘ The man, wherever he lies, is dead.’

“ ‘ Listen! This time I am sure I heard a voice.’

“ Yes, there was something, and we crept gingerly towards the edge of the crevasse, not so much because we feared falling in, although this danger existed, but rather because we did not wish the edge to cave in on the man buried below. The traces where he had slid in were plainly visible.

“ ‘ Blanc, are you there? ’

“ ‘ Yes; I am not hurt.’

“ He thought the porter Culet had returned with help!

“ ‘ Wait, and we will let down the cord.’

“ Mine was forty metres long, and I let it all play out.

“ ‘ It is eight or ten metres too short,’ came a voice from the abyss. “ I am stuck on a ledge and can wait.’

“ Tying together two cords, I got ready to go down to him, but he cried out that it was not necessary, and to lower him the end. We let down nearly fifty metres of rope, allowed him to tie himself, and then began hauling in tenderly. When we got him to the top he said, in looking around, apparently in search of something, that he had forgotten his ice-axe.

“ ‘ Never mind, Blanc, I will get it for you,’ I replied.

“ ‘ No, let me down again, I am going to get it myself.’

"We saw it was a point of honour, and we let him down again, 130 feet. When we pulled him out the second time he had his piolet; his hand had gripped it like a vice, but on being saved he collapsed, lost consciousness and memory, and the next time I saw him in Chamonix he had no recollection of what had happened on the mountain.

"That, however, is how a guide feels about his ice-axe."

Another accident, showing the great fortitude of a guide, took place recently on Mont Blanc, the details of which were told me by those who escaped.

A party of porters were engaged on the actual summit, 15,781 feet, in demolishing the famous Janssen Observatory, which was fast sinking out of sight into the snow. This was on a Monday morning. For some time the weather had been threatening and the men were practically trapped there. Suddenly the storm broke with great violence, and the four men who were there sat huddled together to keep from freezing. Outside was certain death.

There was a blinding flash! Lightning had penetrated the shelter and the party momentarily were stunned. Three of the men, recovering from the shock, found that the fourth, an Italian porter named Casoli, had received the bolt, charring him from head to foot. Had he been a tourist undoubtedly he would have been killed instantly. But being a Mont Blanc porter, all sinews and muscle, even lightning could not kill him outright. Although terribly burned he could yet speak. The others did for him all that was within

human power to do, which on the summit of Mont Blanc was practically nothing, unless it was to give him a little cognac. Monday afternoon and night passed, yet no move could be made owing to the storm. Tuesday passed, while the men remained huddled together, one of them alive but charred black. Wednesday morning the weather cleared and the descent began. At the Refuge Vallot there were some scientists, and Casoli remained there Wednesday night, receiving medical aid.

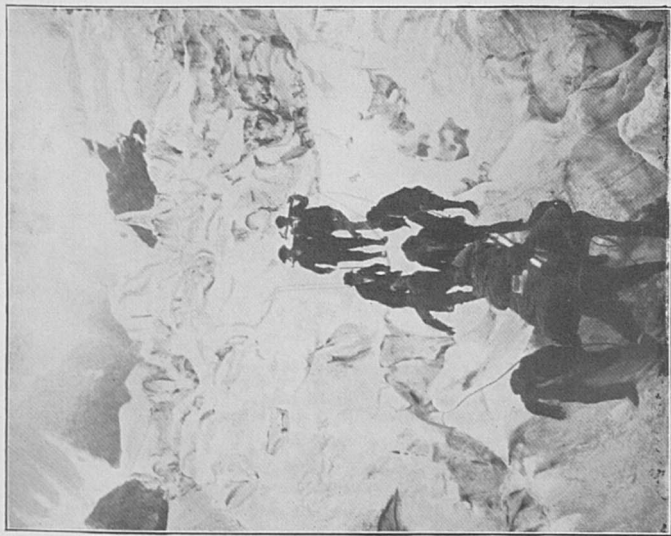
Thursday morning, seventy-two hours afterwards, someone came to me saying that there had been an accident on Mont Blanc, and with the telescope the caravan could be seen descending. The report was a man had been killed, but in looking through the telescope it was plain that the man was injured only, as he was being carried on a litter, whereas if he had been dead the body would have been placed in a sack and dragged. When I first saw them they were descending slowly near the Côte of the Petit Plateau.

Ducroz was standing near me and I asked him if he would go with me immediately to the Grands Mulets.

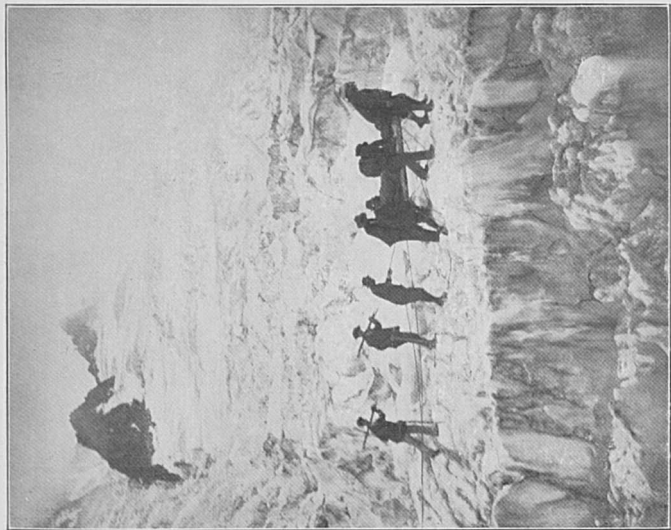
We started at once and reached Pierre Pointue in one hour and forty-five minutes, which is going some, and caught the descending party in the ice near the Jonction. In descending the Montagne de la Côte I learned the sad story, and the remarkable fact that, knowing nothing could be done for him, Casoli told the others it was all right and never once did a complaint pass his lips. No Spartan could have done more.

As we descended into the valley of Chamonix the charred porter grew fainter, and, depressed by the heavier atmosphere below, succumbed a few moments after reaching his home.

Mont Blanc had garnered one more victim.

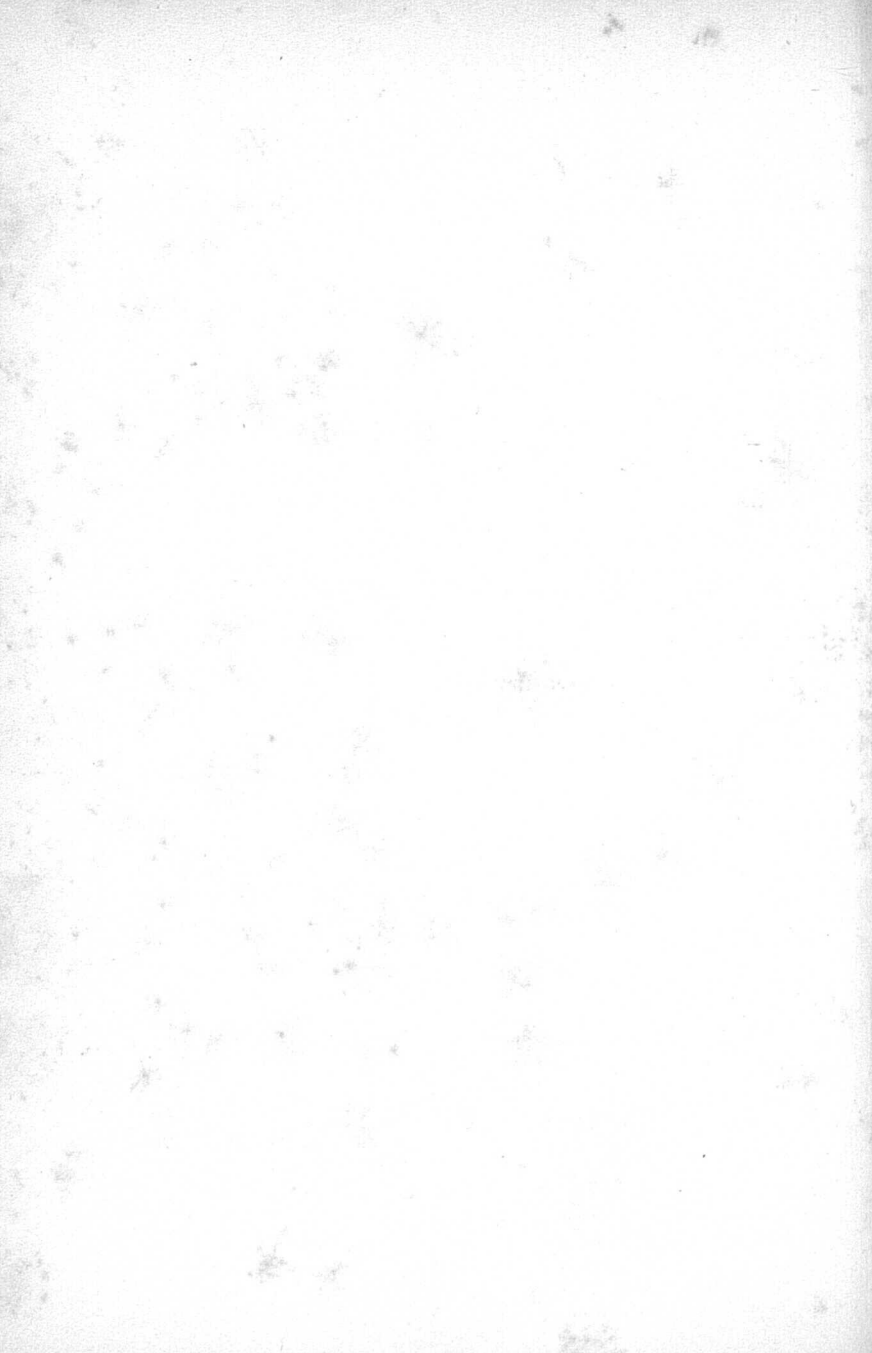


GUIDES IN DIFFICULTIES
at the crevassed "Junction", while descending Pierre
Casoli, who was struck by lightning on Mont Blanc.



HIS LAST VOYAGE ACROSS THE ETERNAL ICE.

Excursions for Beginners



V

EXCURSIONS FOR BEGINNERS

WHEN the amateur alpinist has received some training and begins to feel at home in the mountains, a whole galaxy of easy climbs present themselves, until it becomes difficult to know which to choose.

At all events some of these intermediary climbs should be undertaken before attempting the really big ones, first because they are cheap, not too fatiguing, and excellent places to learn the technique of climbing, but because when one has all day to reach an easy summit and is desirous of learning how to use the rope and where to find hand-holds in the rock, most guides are willing to show novices how this is done.

Even for these simple ascents the learner may obtain really first-rate guides, for the most famous like a day off now and then, especially if they can get a comfortable night's rest and a good lunch and dinner the day of the climb. Moreover, as it is the custom generally to continue with the same guide throughout the season, guides are ready to go through this preliminary work in the hope of securing a good customer for the big climbs later.

I recall the arrival of an American in Chamonix two summers ago who started this way in the Aiguilles Rouges until he felt thoroughly at home. He tackled

climbing in a practical, business-like way, increasing the difficulties as he grew in knowledge. Within two weeks he was attacking some of the classical peaks, and before the season was over conquered the Dent du Géant, Grépon and Aiguille Verte, which are among the most difficult.

Take the Zermatt district, for instance. If one is staying at the Riffelalp, as so many alpinists do, a day on the Riffelhorn, 9616 feet, may prove particularly interesting. One may find difficulties by creating them—and sometimes without looking for them. Mr W. K. Wilson was killed there. The panorama from the summit is one of the finest in the Alps, finer than many summits several thousand feet higher, for one faces the Monte Rosa, Lyskamm, Breithorn, Matterhorn, Dent Blanche, Ober Gabelhorn, Rothhorn and Weisshorn, while below behind stretches the valley of Zermatt, and above the great Mischabelhörner group. The price of a guide from the Riffelalp is only 8 francs, although if one went there to practise some arrangement would have to be made.

The Mettelhorn, 11,188 feet, north of Zermatt, is another favourite climb for beginners, and from the summit one gets a magnificent view of the Weisshorn. Although the last half-hour is climbed in the snow, the tariff is only 10 francs for a guide.

Another climb, more ambitious but extremely popular, is the ascent of the Breithorn, 13,685 feet, a guide for which costs 50 francs. As the panorama from the summit is one of the finest, if not the finest around Zermatt, it is advisable to reach the summit, if

possible, soon after daybreak, before clouds can obstruct the view. To do this it is better to sleep at the inn on the Theodule Pass, from which the summit may be reached in about three hours. In descending one may climb, in passing, the Klein Matterhorn, 12,750 feet, without losing much more than one hour and at an additional cost of 15 francs.

Easy as it is, the Breithorn has its victim, for this past summer—1913—a party were surprised by bad weather, were forced to sleep out all night in an exposed position, and in the morning one of the party succumbed to the cold.

Chamonix is particularly interesting as a training ground for beginners, owing to the innumerable climbs thereabouts varying from the very easy to difficult, during which one may experiment with rock, glaciers and steep snow.

Behind the Brévent, for instance, there are steep snow slopes where one may fall headlong for amusement, being quite sure to stop without incurring any danger whatever. One may practise climbing these slopes and glissading back with ice-axes. It is well to have a guide or porter, however, to indicate which slopes are safe for this practice, for one might easily toboggan on to a rock, which would be uncomfortable, to say the least.

The ideal practice-ground, however, is further north-east in the Aiguilles Rouges, where there are small glaciers, excellent rocks to climb, and some very interesting snow slopes. The glaciers and most of the peaks are uncharted but are well known to the guides, and

the summits may be taken one after the other. Le Pouce, l'Index and Aiguille de la Floriaz, 9475 feet, will prove particularly interesting to beginners, and the ascent of the Belvédère, 9731 feet, and highest of the group, is recommended. In doing most of these climbs it is better to sleep at the Flégère above Chamonix, where one may get a comfortable room and good meals at reasonable prices. Details of the ascent of the Belvédère are given at length in a later chapter entitled "Among the Red Needles."

Many of the Aiguilles Rouges, it should be remembered, are serious climbs, and some of them, like the Aiguille de l'Arête Plate, are actually nasty owing to sharp ridges over which one must pass and which are covered with loose stones, the equilibrium of which is upset often by the slightest touch.

That climbing in the Aiguilles Rouges is not without danger is evidenced by an accident on the Persévérance this summer, when Miss Eugster, only daughter of the constructor of the railway up the Aiguille du Midi, and an excellent alpinist, fell several hundred feet and was killed instantly.

The most popular climb on the south side of the valley among the famous Chamonix Needles is the ascent of the Aiguille de l'M, so named because of its resemblance to the thirteenth letter of the alphabet. There are some rather dizzy places, but its ascent presents no real difficulty and no danger with a good guide. The ascent of the Petit Charmoz, which may be done the same day, is even more interesting and not difficult. The rock here is solid

granite, where one may feel safe with a very slight foot-hold.

The Aiguille du Moine, 11,214 feet, on the east side, and towering above the Mer de Glace, is perhaps a little more ambitious but not a difficult climb, although one of the finest in the Alps, owing to the scenery and giant peaks that surround it. The Moine may be climbed from Montanvert, but it is better for the beginner to sleep at the Couvercle, a refuge built by the French Alpine Club above the Glacier de Talèfre, from which the summit may be reached in three or four hours. Near the refuge of the Couvercle, a little to the east and at an altitude of 9833 feet, is a little spot of verdure called the Jardin, the only one to be seen in this vast expanse of snow, glaciers and granite. In midsummer it is only spring here, and alpine flowers bloom in profusion. It is enclosed like a garden, for the glacier has deposited around it stones which encircle it like a fence. Some 109 species of plants have been found on this oasis surrounded by great peaks and eternal snow, and one wonders how flowers ever came there.

Probably the most fascinating easy snow-climb around Chamonix is a visit to the Grands Mulets, where one sleeps the night before ascending Mont Blanc. A guide is necessary, and it is advisable to take a porter also, for some of the crevasses may be very bad. The most interesting route is by the Montagne de la Côte, by which the guide Jacques Balmat, famous historically, first reached the summit of the great white mountain in 1786. There is now a good path to the summit of the Côte, and although Dr Cauro was killed here, falling

over 600 feet, the mountain is not dangerous, although in places a little *vertigineuse*.

The first time I used the Montagne de la Côte for ascending to the Grands Mulets we had rather an exciting experience. No path had then been made and care had to be taken, for steep grass-covered slopes can be treacherous.

We started, my wife and I and the guide Auguste Payot, from Les Bossons at 4.15 in the morning, when the valley was still in gloom. There were a few fleecy clouds in the sky, denoting a coming change in the weather, but the prospects were that the weather would hold good for the day. Within two hours we arrived at the Chalet des Pyramids and breakfasted. To see the sun rise on the ice and snow is well worth the trouble, and one must go there, too, to get an idea of the steepness and expanse of the Glacier des Bossons, which at this point may be crossed easily with a guide to show the way. On leaving the chalet, however, the path stopped abruptly. Turning suddenly to the right, Payot took the lead, going up the *couloir* in zig-zag fashion, picking each step. The passage was filled with grass, which made it all the more slippery. Alpinists joke about grass-covered mountains as *aiguilles des vaches*, peaks for cows to climb, but in reality some of these grass slopes are dangerous.

It was soon over, however, and we stood on the backbone of the mountain, which in places was rather thin for walking. There were overhanging stones which had to be passed and narrow ledges overlooking many

hundreds of feet of precipice, places which required courage and self-confidence.

It was indeed interesting, as Payot had promised, more so than I had imagined. Instead of the badly-made, monotonous path to Pierre Pointue, we walked on the knife-edged ridge, looking down steep descents on both sides to the Glaciers des Bossons and de Taconnaz.

Approaching Mont Corbeau, one of the lofty projections in the main ridge of the Côte, we skirted the pinnacle to the left, after which it was easy going. Imagine my surprise, however, to see here droves of mountain goats. The rams and very young, Payot said, are driven up here in the early summer to pasture, and, being surrounded on three sides by crevassed ice, and where we were by a narrow ledge, they were practically trapped.

They were so glad to see human beings, these relatives of the chamois, that they nearly mobbed us, and had to be driven off with ice-axes. As we led the way upwards whole droves followed. The seracs in the Glacier des Bossons to the left, which fenced in the goats, were particularly fantastic, and fell at intervals with thunderous noise.

On the summit of the Montagne de la Côte we lunched, then roped ourselves together to go on the ice. And what ice it was! The famous Horace Benedict de Saussure, to whom a monument has been erected at Chamonix, wrote as long ago as 1787 that the glacier was difficult and dangerous.

But guides know more about climbing on ice than

they did one hundred years ago, and Payot was soon busy with his ice-axe sending a shower of splintered ice down into the deep blue crevasses on either side. In going forward we tried to stay on top of the ice-ridges, and to get there foot-holds or steps were cut into the ice-slopes; once on the ridge it was a question of poise, for on either side were deep abysses.

All the time we were moving on the Glacier des Bossons. Our progress was rapid, and in considerably less time than one hour we reached the "Junction," claimed to be one of the difficult passages on Mont Blanc. It is so called because the Glacier des Bossons and the Glacier de Tacconnaz meet here, and it is the crossing from one glacier to the other that constitutes the difficulty.

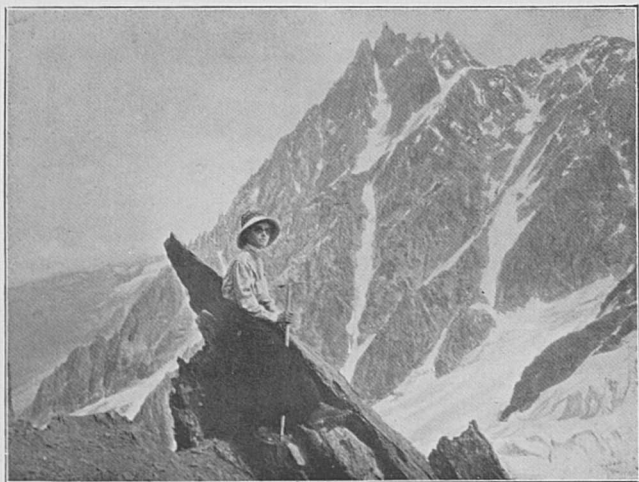
Before us like a great moat lay a gigantic crevasse, in which light-blue icicles dangled down into the dark-blue void. Ice-pinnacles tottered over the brink, and ice-bridges overhung grottoes and caverns. And somewhere deep down below are human bodies, climbers who have met with catastrophe.

Our moat, however, had to be crossed, and we three went on to the brink. Fortunately a ladder had been placed across the crevasse as a bridge, and, going down on all fours, we traversed the chasm one by one. I stopped long enough to add one more photograph to my alpine collection.

Without serious difficulty we crossed the "Junction" and began the ascent of the long snow slope leading up to the refuge at the Grands Mulets. Leontine climbed rapidly, in spite of the somewhat dizzy snow



MADAME FREDERICK BURLINGHAM
and the Guide, Auguste Payot, crossing a crevasse at
the "Jonction" on their way to the Grands Mulets.



AT THE GRANDS MULETS
where one sleeps before climbing Mont Blanc.

wall, and at 10.50 o'clock we climbed the rocks upon which the refuge stands.

At last we arrived!

Six thousand five hundred and ninety-five feet above the valley of Chamonix where we started! Except for a quarter of an hour for breakfast and a short lunch on the summit of the Côte we had practically not stopped. Clouds were gathering over Mont Blanc and the Dôme de Goûter, but the view over the valley of Chamonix was superb. The hotels of Chamonix appeared so small as to be almost undiscernible, and were nearly lost in the haze far beneath.

It appears we had made fast time. De Saussure says, for instance, in the fourth volume of his *Voyages dans les Alpes*, that five or six hours should be reserved for climbing the Montagne de la Côte, and three hours from the top to the Grands Mulets—nine hours in all. In spite of the fact that I stopped seven times to take photographs, we had made the ascent in 6 hours 35 minutes.

After luncheon we remained at the Grands Mulets until 1.15 o'clock. I did not like the look of the weather, and, although my wife was fascinated with the sensation of being so high—she was then a beginner—we decided to scramble down.

It is the looking down a long, rather steep snow-slope that tries the nerves most. In coming up one faces the snow; in going down one faces the void. There was practically no danger of all three of us slipping at once, and she gained confidence when she grew accustomed to the proper use of the ice-axe. Far down

below us, coming up the same slope, were three caravans bound for Mont Blanc. We were running away from the threatening weather, and they seemed to have the intention of braving it. I heard later they were forced to fly for refuge to the Grands Mulets and abandon their excursion, coming down the day after the storm.

We recrossed the "Junction" and pushed on for Pierre Pointue, not wishing to get caught in the blizzard. We were in good order, going as fast as circumstances allowed. Torn clouds were whirling about in the snow regions above, and there was lightning in the valley below. Underneath our feet were crevasses, and giant seracs leaned across our path.

I noticed, without talking about it, that two or three avalanches had buried the fresh tracks of the three caravans we had just passed. Suddenly Leontine uttered a sharp cry and I felt the rope tighten instantaneously. Payot jumped backwards. It all happened in a moment. Sharp cracks of thunder and the deep reverberating roars gave this mountain scene a terrific majesty. She had gone into an unseen crevasse over which I must have passed by taking a very long stride. Holding fast to the rope, I turned and saw she had gone through a snow ridge. Working together, Payot and I easily pulled her out, and fortunately she was not hurt, even if somewhat surprised.

We pushed on for Pierre à l'Echelle, the storm descending or ascending, it was hard to tell which. And here we could not take too much care, for we were in the *couloir*, where avalanches of stones come down off the

Aiguille du Midi at a speed that renders them at times invisible. Once across the avalanche path however, we almost ran down the moraine, reaching Pierre Pointue, where we took shelter just as the storm broke in its fury.



Cinematographing the Matterhorn

VI

CINEMATOGRAPHING THE MATTERHORN

ARRIVING at Zermatt with me on the train from Viège were a party of Germans, who, when for the first time the Matterhorn suddenly appeared above, broke out in loud cheers.

We all felt overwhelmed, for the Matterhorn, seen close for the first time, is the most superb obelisk in the world. Rising 14,705 feet alone in a series of sheer precipices, it seems impossible, gigantic, confounding. This impression never quite fades away, for it is all real, this vast pinnacle of granite with its abysmal slopes and hanging glaciers.

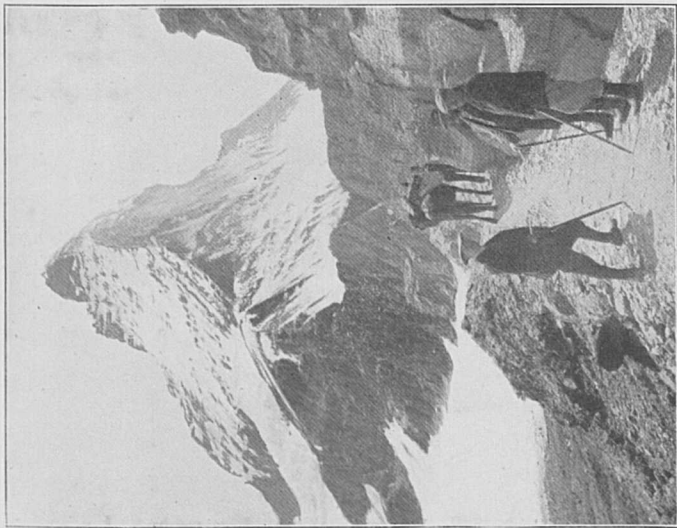
My room in the Mont Cervin Hotel looked out on the mountain. While I was dressing for dinner a cloud appeared clinging to the southern face several hundred feet below the summit, and as the sun set, casting a gloom over the valley, this cloud turned pink and the mountain purple. It is a wonder I ever finished dressing. Even after dinner there was still a glow above the shoulder, but as the stars came out the summit turned death-white, frigid and desolate. It seemed higher than Olympus and certainly too cold for the gods.

My thoughts next morning were whether I could get

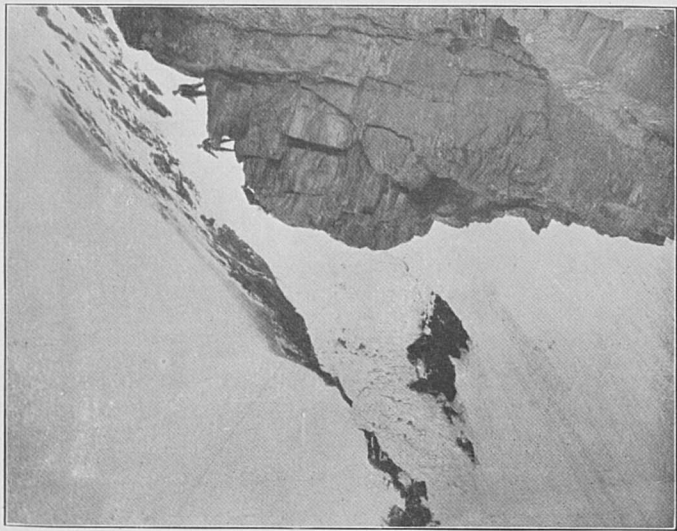
up to the top with a cinematograph. When I broached the subject with some alpinists they treated the suggestion with derision, thinking either I knew nothing of mountains or else that I was stark mad. This acted upon me, however, as an additional incentive, and before the day was out I had brought the project to the attention of M. Seiler, the well-known hotel proprietor and most influential man in the valley, and he promised to consult some expert guides. Climbing the mountain for the moment was quite out of the question, as there was too much snow and ice and wind and too little prospect of continued fine weather. Two or three days later he asked me to have a talk with Gabriel Zum Taugwald, the famous guide who was in the Himalayas with Mrs Bullock Workman and in the Andes with Miss Annie Peck. Zum Taugwald was favourable to trying it.

I telegraphed my company, the British and Colonial Kinematograph of London, what was on foot, asking them to rush 1500 feet more of film. Zum Taugwald said it would be a waste of time and money to attempt the mountain before we had three consecutive days of fine weather, which would get the snow in good condition. Otherwise it would be too cold on the mountain and there would be danger of avalanches; besides, the rocks were covered with icicles and *verglas* and the snow was deep. There was nothing to do, therefore, but wait.

The next few days were not ill spent. It gave me time to study the mountain from below with a telescope and to lunch at the Riffelalp, from where the terrific



THE MATTERHORN, 14,705 FEET,
seen from the path on the Hörnli.



FIRST CONTACT WITH THE MATTERHORN
PRECIPICES.

Matterhorn precipices are seen to their greatest advantage. I saw at once the great difficulty in cinematographing the mountain, which was the lack of *recul*, or opportunity of getting the proper vantage point for taking the pictures. If one points the camera too far up or down the angle would deform a precipitous slope into one apparently flat, and on either side of the ascending knife-edged-like ridge there were abysmal precipices. It is practically impossible to instal and work a cinema camera on ice sloping at 70 degrees, even if guides could be found to risk their lives there. The second difficulty was climbing such a peak so heavily burdened with apparatus and at the same time deducting sufficient time for taking the pictures. It being impossible to rest the night on the mountain, all the work must be done in one day. My programme, therefore, was to make for the "shoulder" before daylight, to cinematograph the top of the mountain the first day, and the second to reascend as far as the shoulder and to fill in parts skipped on the first ascent. This entails a tremendous amount of exertion during two consecutive days, not counting the preliminary day occupied in reaching the Hörnli *cabane*, but I am convinced now that this is the way the work should be done.

In order to see the Matterhorn from another angle I spent another day, while waiting for fine weather, in walking over on the Zmutt side above the glacier of that name. From here the ridge up from the Hörnli appears much less steep and more reassuring. At any rate I was decided to tackle the mountain, and even if I

failed it still would be an honourable attempt. I realized the danger, but I never doubted that the summit could be reached with perseverance, skill, fine weather and fair luck.

After waiting fully ten days, prospects became favourable, and although there was a high northerly wind, this was an advantage, Zum Taugwald said, for we could see the gale aloft cleaning the mountain of snow. The cold up there must have been terrific.

Ordering some transport mules the night before, so as to save the guides' strength as much as possible, we left Zermatt amid considerable excitement on 1st July.

We were five—Gabriel Zum Taugwald, Heinrich Julen, Franziskus Taugwalder and David Biner, to whose lot fell the herculean task of carrying up the cinema camera, weighing 15 kilos. All four men were admirable, and during three days of trying work nothing occurred to cast even a shadow across our friendly relations, which has now become one of my pleasantest alpine souvenirs.

We were busy all morning cinematographing the picturesque route leading above the Gorner glacier to the Schwarzsee Hotel, where we had lunch before making for the Hörnli. From here we continued with one of the mules as far as the snow would permit, but the animal began floundering long before we reached the zigzag path leading up rapidly to the *cabane*, and the camera, tripod, food and rope were transferred to the backs of the guides.

We arrived at the Matterhorn *cabane* on the Hörnli

ridge, at an altitude of over 10,000 feet, early in the afternoon of a beautiful July day. There was still considerable wind, but the barometer was now rising, and the guides prophesied good weather for the ascent. There were two things in our favour: the gale, which had been blowing three days, had cleaned the mountain, sweeping away most of the loose snow, while the sun had melted much of the *verglas*, or ice-coating on the rocks.

In spite of the resplendent sunshine, however, the Matterhorn, rising nearly a mile above us in a series of tremendous precipices, looked grim and menacing. A few corneilles were seen soaring wildly near the high overhanging crags, emphasizing the grandeur and the desolation of the scene.

No wonder that before Edward Whymper, the great English alpinist, climbed the Matterhorn, in 1865, the peak was considered impossible. The same day, however, the mountain took its revenge, for, in descending, Lord Francis Douglas and three others of the successful party were knocked off their feet and fell from precipice to precipice, 4000 feet, on to the Matterhorn gletscher below. Since then catastrophe has succeeded catastrophe.

It is a wonderful sight this view from the Matterhorn *cabane* on the Hörnli. To the left below us was the Furggen gletscher, with the Glacier du Mont Cervin hanging above it; to the right the Matterhorn gletscher, and below it the Zmutt gletscher, and behind was the valley of Zermatt, at this moment partly hidden by whirling clouds.

It was very cold; loose-powdered snow blew about in the bed-chamber allotted me, and in the dining-room the window panes were covered with a thick opaque frost. A small wood fire was burning in the dining-room stove—the wood, by the way, had been carried up on the back of porters—and by drinking hot soup and leaning against the stove I managed to dine in comparative comfort.

Outside the wind whistled and moaned in the crags. It was impossible to sleep. One reposes badly the first night in high altitudes; in fact, if one climbs high enough sleep under any circumstances becomes impossible. Mrs Bullock Workman told me that when camping in the Himalayas at an altitude of 20,000 feet for six days no one slept. It is said that Napoleon could sleep anywhere at a moment's notice, turning off his thoughts, as it were, like one intentionally turns out an electric light. It is stated that on one occasion when one of his ministers doubted this faculty Napoleon put it to the test and, sleeping instantly, was awakened with difficulty. I wonder whether he would have slept this night on the Hörnli!

PRECIPICE CLIMBING AT NIGHT

At 2 A.M. everyone was aroused, and after a hurried breakfast preparations were made to leave. We had left a call for one o'clock, but the cabin-keeper had failed to wake, and it was Gabriel Zum Taugwald, my first guide, who aroused the party. This lost hour was nearly fatal.



BRITISH AND COLONIAL KINEMATOGRAPH CARAVAN
arriving at the Hörnli Cabine above the clouds.



APPROACHING THE MATTERHORN CRAGS.

Roping up in the cabin and shouldering the heavy apparatus, we went out in the night, at 2.45 o'clock, with lanterns to tackle the Matterhorn crags. Within 10 feet of the cabin door we began ascending a snow slope, our feet crunching the frozen surface, which rapidly became steeper, until Gabriel, who was leading, was forced to cut steps. In a very short time we were in the crags and climbing rapidly. Above the stars shone dimly through a faint mist, while below one distinguished the grey outlines and deadly crevices of the Mont Cervin glacier. There was still some wind, but we hoped it would die down with the sunrise.

The rocks were very precipitous. In one place the crags were so steep that in paying close attention to foot-holds I cracked my head on an overhanging ledge. Not relishing repeating this performance, I was forced to pay close attention to the mountain.

Think of our caravan carrying a 15-kilo cinematograph camera, 10-kilo tripod, 1500 feet of extra film, a half-plate hand camera, two dozen films, rope and ice-axes, extra clothing and provisions for five, climbing at night with alpine lanterns and clinging to the precipitous mountain, where one false step would have dashed one to sure death below.

BREAKFAST AT 12,526 FEET

On reaching the club hut, about the size of a large box, and completely filled with snow and ice, we dis-

charged our loads to breakfast, and wait for the light, for here began the real difficulties.

I sat down two or three times in the snow to flatten out a comfortable seat, for there was no room to move about. While eating some dried prunes to moisten the mouth, I sat looking down one of the most precipitous slopes I have yet encountered, and upsetting the snow with my feet, watched it rush, hissing, down until it was lost in the void below.

In the east dawn was breaking. Two hours below us was the Matterhorn cabin we had just left. In the distance to the left one saw the Rhone valley, filled with cotton-looking clouds, while the peaks above the morning mist were bathed in golden light.

Before us were the great Mischabelhörner peaks, and further to the right Monte Rosa, the highest point in Switzerland, the Lyskamm and the Breithorn. Across the Theodule Pass one looked down into smiling Italy. But there was no time to be wasted in gazing at the glorious panorama.

As the guides declared we were overloaded, it was decided to leave behind nearly all the provisions, these being the least necessary to our success, so with simply the two cameras, tripod, film, and the minimum of food, we again began the ascent.

Imagine climbing a narrow, knife-like ridge of granite, with precipices on both sides, to find the way ahead barred by a gendarme, or perpendicular spire, over which it is impossible to pass. The only solution of the difficulty was to pass to the left on the face of the precipices. To make matters worse the mountain was

in very bad condition, and instead of passing out over rocks we were forced to cross ice-slopes, which Zum Taugwald estimated to be only 20 degrees from the perpendicular.

ON THE "SHOULDER" IN A GALE

We had four hours of this climbing, more or less, before reaching the famous "shoulder," which we found steep ice covered with snow. On the "shoulder" we could be seen by telescope from all over the valley of Zermatt. Below, hotel guests were just finishing breakfast, and our appearance on the ice-slope created a great sensation.

By hard work we reached the upper edge of the "shoulder," where one may look straight down thousands of feet to the Matterhorn gletscher.

The formation of the mountain is such that the north wind, dammed up elsewhere, rushes up here over the "shoulder" with terrific force. As we passed we were nearly blown off the mountain, and it looked as if our expedition was doomed. It was very cold, and the granulated ice, blown up by the wind, cut our hands and faces until they became raw.

"I think it scarcely prudent to go on in this wind," said Zum Taugwald.

"If you say 'Turn back,' " I replied, with all the courage I could muster, "all right, we will; but it means it all has to be done over again!"

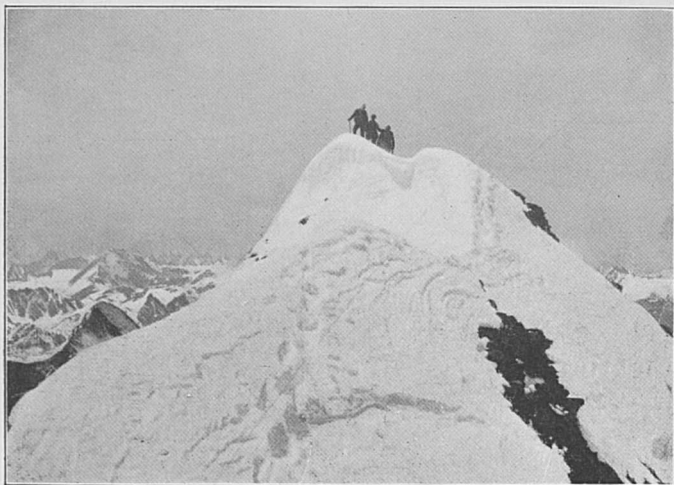
As a compromise we decided to climb above the "shoulder" and see if there was not less wind there.

Fortunately this proved so, and we climbed fast, passing near where the great accident in 1865 took place, on to the summit, which we found snow-covered and abounding in dangerous ice cornices. Our arrival there, I was told later, was seen from Zermatt, the Riffelalp, the Gornergrat and Schwarzsee, where crowds all day collected around the telescopes.

The scene from the summit—14,705 feet—is superb. One may see close at hand the terrible Dent Blanche, the peerless Weisshorn, the Rothhorn, and Ober Gabelhorn. The groups around the Monte Rosa, described already, are seen from the summit to greater advantage. Behind these are the Bernese Oberland, the Simplon and St Gothard groups. To the south, 8000 feet below us, were the pastures of Breuil, dotted with chalets, from which blue smoke rose lazily.

The Viso, 100 miles away, the Maritime Alps, 130 miles, the Dauphine Alps, and lastly Mont Blanc, dominating them all, composed this great panorama.

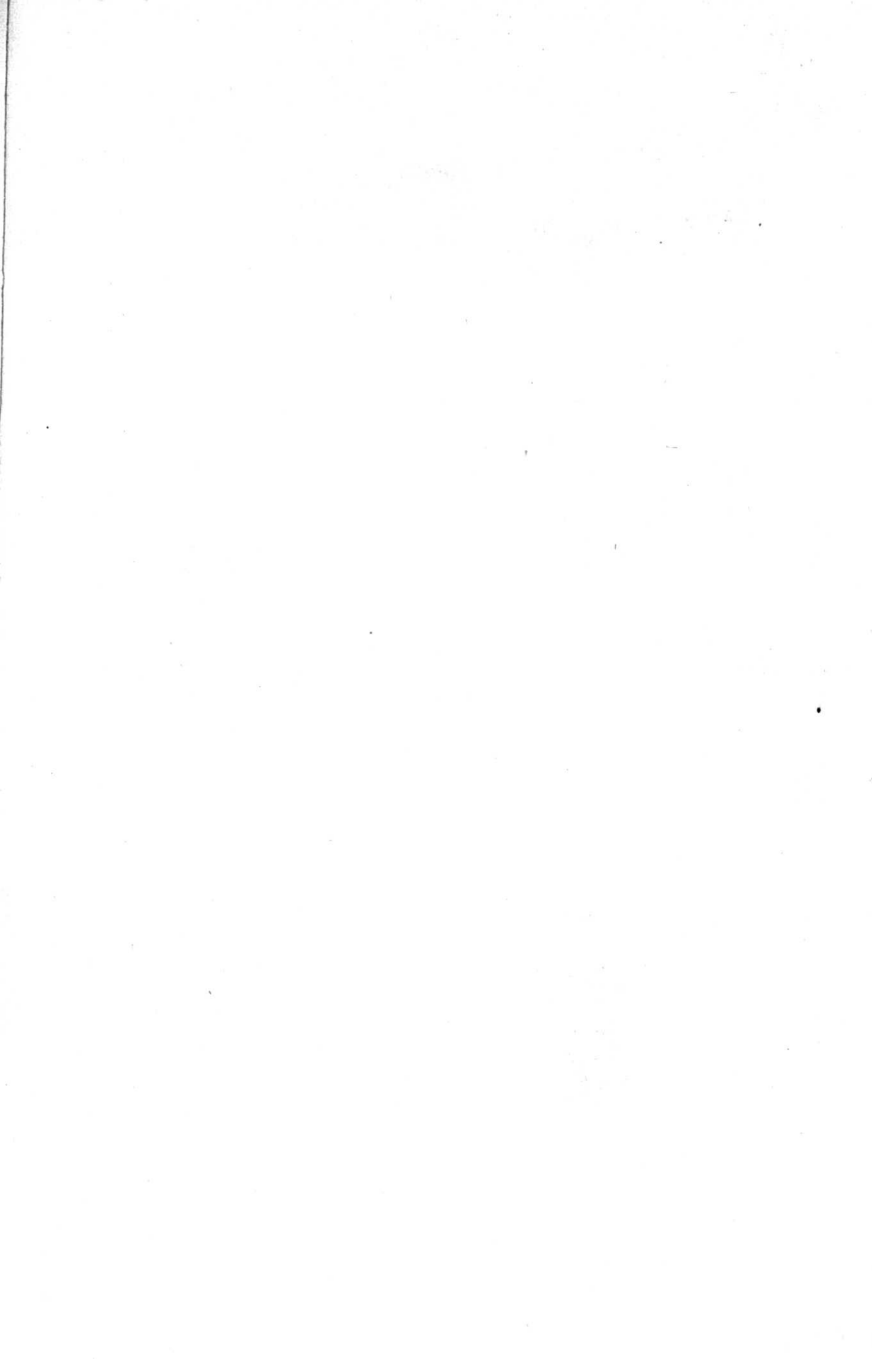
But this is not cinematographing. After having filmed the summit we began the descent, taking every known precaution to prevent disaster. The descent is the more difficult of the two. At the "shoulder" the camera was set up with the greatest difficulty. To keep from sliding off the mountain Julien cut a place in the ice for my feet and another for himself, and sitting down under me held my knees and braced the tripod while I got the pictures. Think of standing on steep ice in a heavy wind, on the side of a precipice dropping thousands of feet, keeping a cool head and balance



THE SUMMIT OF THE MATTERHORN.



MR. FREDERICK BURLINGHAM,
with kinematograph camera, on the summit of the Matterhorn.
Monte Rosa is seen in the distance.



while "panoraming" to keep the climbers in the picture.

By moving one at a time, with the utmost precaution, we slowly descended towards the frozen club hut, but not before darkness began to settle down.

THE PERIL OF DARKNESS

"We must get to the club hut before dark," said Zum Taugwald, "or we will be in peril. It is impossible to remain the night on the mountain." To make matters worse it began to snow hard.

"We must move faster," said Gabriel. Most of the descent was done face outward, looking down the precipices. These looked impossible, and each appeared to end in void. In descending, however, the actual edge of the precipice receded, and by passing to the right or left a way around the perpendicular brink was found.

I have a recollection of turning, lying on my stomach, calling to Julen to keep the rope in safety, and descending, half dangling, over the edge. Not knowing the mountain as well as the guides, I found it not always easy to discover the proper hand-holds. On this occasion I was actually hanging on by fingertips, feeling with my feet for a crack upon which to place my boot nails. By swinging to the right I found this new hold, and passed on to make room for the others.

By dusk we reached the club hut. We were still high on the mountain, and as the snowstorm had blotted

us from view there was considerable uneasiness at Zermatt. From here, however, it was easier going, and by descending very rapidly we succeeded in reaching the Matterhorn cabins by 9.15 P.M., which we had left nearly nineteen hours before.

We were all of us too tired to eat, but what did it matter?

We had cinematographed the Matterhorn!

Why Alpine Accidents Happen

VII

WHY ALPINE ACCIDENTS HAPPEN

SCARCELY a week goes by without the newspapers reporting an alpine tragedy, with one or more deaths.

Most of them, as has been shown, are fatal accidents befalling inexperienced climbers making an ascent without guides—which is pure folly.

But now and then is reported an alpine catastrophe of quite a different character—one in which guides themselves have lost their lives.

There occurred not long ago an accident which will go down in history as one of the most tragic in the entire Bernese Oberland. It is not possible to state positively what happened on the snow-slope below the Concordia Hut, but the following inference is plausible:

For some days the weather had been bad, and there was plenty of fresh snow on the Jungfrau. This fell like a blanket on the old snow, which, in summer, owing to the alternate thawing and freezing during hot days and cold nights, becomes a hard, polished surface. Until the new snow, therefore, freezes to the icy surface underneath it is highly dangerous where the slope is steep, for there is constant danger of avalanches.

All guides know this. Apparently the guides in this instance took "chances." At any rate, once well up on the steep snow slope the whole new layer of snow began to move—as a rug slides on a polished floor when stepped upon—and the avalanche, once started, was invincible, and the climbers were carried on this moving carpet of snow to their doom.

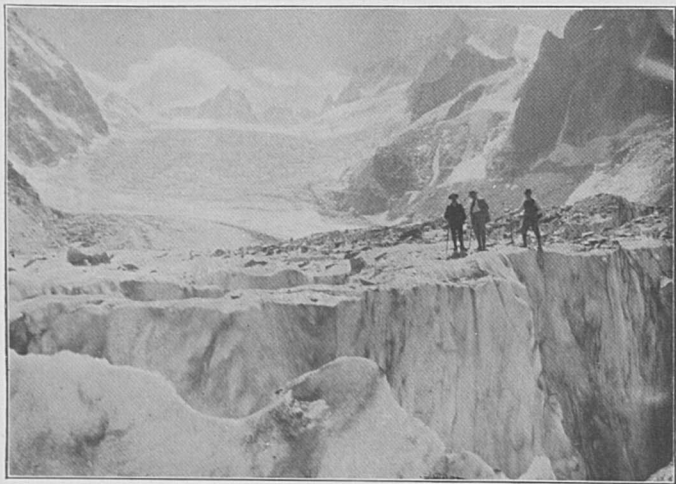
The question arises immediately: Why do guides take such chances?

That is the tragedy of their lives. It is true many of the guides are thorough sportsmen and take untold risks in climbing by new routes simply for the sport of the thing; but in many cases the risks are taken because the guides are in urgent need of money. They may be engaged for a long climb; then the weather turns bad and there is a long heart-breaking wait, either with a retaining fee or, more likely, simply with the hope of making the climb when the weather clears.

Then the weather alters, and with their tourists they climb to one of the mountain refuges. The guide sees the condition of the snow is bad, but he is told by his tourist climbers that it must be now or never, as tomorrow is the end of their holiday. If the climb is abandoned at the lower refuge, then the guide is paid a ridiculously low price, only a few shillings. Probably the tourists urge the guide on against his better judgment—this is most likely the case—and finally, owing to economic pressure, he takes the "chance." The amateurs are jubilant; but he goes with misgivings, for, being a highly-trained observer, he sees death lurk-



SUNRISE ON MONT BLANC.



CREVASSES IN THE GLACIER DU GÉANT.



ing in places which escape the observations of the others.

I have known guides to stay away from Mont Blanc, for instance, because they saw a veil of mist clinging to Mont Maudit—so acute is their foresight towards oncoming bad weather.

But very often the guide goes on, violating his judgment, and suddenly they are in an avalanche. He, the guide, in one terrible moment is swept beyond all economic laws, and pictures of the scene of the tragedy fill the newspapers.

It is only the initiated who see the real meaning of the drama, and who have a thought for the widow when the news is brought home to the fatherless children.

For this highly dangerous work guides are paid comparatively very little. The climbing season lasts only from June into September. Probably a few of the most famous guides make £200 a year; but as many of them accept monthly engagements at £1 a day, it shows their willingness to accept a sure thing on about half this basis.

In the Mont Blanc section guides may wait weeks to do the Aiguille Verte, one of the most difficult and dangerous of all the mountains in the Alps, for which they are paid only £4, which is the price for doing Mont Blanc. For climbing the Aiguille du Midi, which takes two days, they get only £2, 8s. If the ordinary guides doing difficult work make 10s. a day on the average during the season they may consider themselves lucky.

Now the point I want to make is this: guides are poorly paid and do take chances.

The moral, therefore, is to climb always with a careful guide, and, above all, to make him feel that he will not lose from a monetary standpoint if he advises against going on in the face of peril.

It is in this way one may avoid catastrophe.

In an Avalanche Path

VIII

IN AN AVALANCHE PATH

It was a narrow escape, and shows the infinite precaution necessary in mountain climbing.

When the avalanche started there were five of us roped together in a narrow, steep *couloir*, and for a moment there appeared no escape. Death, however, passed slightly to one side and overhead, and those few seconds which seemed an eternity are now only a memory.

The incident took place on the Aiguille du Moine, a scraggy needle rising precipitously 11,214 feet in the chain of the Aiguille Verte on the east side of the Mer de Glace and facing Mont Blanc itself. This peak, which was first climbed on September 22, 1871, by Miss Isabella Straton and Miss Emmeline Lewis Lloyd, with the guides J. E. Charlet and Joseph Simond, is now considered a climb for amateurs, and in reality is quite easy. The danger on the Moine, or the Monk, as it is called in English, is losing the way, which we did.

The weather had been bad for days, and we waited at Chamonix, lolling in the cafés, for the sky to clear. Finally the sun broke through the mists, and as the barometer indicated better weather we left for the Montanvert Hotel, a two hours' scramble up from

Chamonix and overlooking the Mer de Glace. When we arrived there was still a mist on the upper crags of our peak, but this lifted slightly for a few moments, allowing me to take a photograph.

Our caravan comprised my friends Duval and Schaperelli from Paris, the guides Delmas and Simond, and as far as the Couvercle, the alpine hut where we had planned to sleep, came some friends, making eight persons in all.

Now the Aiguille du Moine is an ordinary steep climb on granite. It is not like the Aiguille Verte or the Dent du Géant, where one may expect to be killed. What happened, therefore, is of special interest, as it concerns hundreds of amateurs.

To-day there is a wild scramble up the alpine precipices, so there is all the more reason to tell the truth and to avert wholesale accidents by crying out a warning. Some alpine writers I read this summer speak of breaking away from the tyranny of guides and going "on their own." An Italian artist named Cumani seventeen years ago abandoned his guides and tried to climb Mont Blanc alone by the Brenva Glacier. He has not been heard of since. Hundreds of accidents are never reported, and nine-tenths of those which are happen to climbers who have dispensed with guides.

Our little caravan, therefore, even to climb the Moine, took every precaution. We had two guides, plenty of rope carefully examined before leaving, and caused any badly-worn nails in our shoes to be renewed.

On leaving Montanvert Hotel I went slightly ahead

in order to get a photograph of the party passing Les Ponts, a *mauvais pas* one is forced to take in descending on to the Mer de Glace. As this is an ordinary tourist trail, steps have been cut into a steep rock slope where if one slipped he would tumble to the glacier far down below. In the most ticklish places there is an iron rail cemented to the rock to which one may cling. Alpinists leaving Montanvert for the Col du Géant and Italy, for instance, pass this passage at night with lanterns, which, until the novelty wears off, is rather disconcerting. As we passed one of the guides pointed out a spot where a tourist, the day before, had been killed while descending *alone* from the foot of the Aiguille de l'M.

Ahead of us down the Mer de Glace was a tourist party including women. While we were eating lunch at the spring which supplies the Montanvert Hotel the antics of some of the tourists attracted my attention, and I changed my seat better to watch the spectacle. Suddenly I was amazed to see one of the women fall backwards into a crevasse. There was a wild scramble. Quickly the others got a rope and pulled her out. When we passed them, going out upon the ice, they told us the woman was bruised, but fortunately not really injured.

This sea of ice is full of curiosities. Bounding over the frozen surface is a rivulet which suddenly disappears with thunderous noise into a great ice-cavern, or *moulin*. M. Vallot, Director of the Observatory on Mont Blanc, was so curious to know what became of the small river that he dropped into the ice cauldron a box of blueing, the kind used by washerwomen, and two hours after-

wards watchers saw blue water rush out from the lower end of the Mer de Glace.

When well on the glacier it was comparatively easy going until we reached the moraines, and were forced to pass from the Mer de Glace to the Glacier de Leschaux. Here Delmas lost the way, and while he went to reconnoitre we amused ourselves looking for crystals and pieces of amethysts. Guides have a habit of placing small stones one upon another in conspicuous places to mark an easy passage, but Delmas completely missed these signals. After losing an hour in the moraines we finally got through by cutting steps in the ice and climbing up and down the seracked walls. The delay, however, cost us dearly, for higher up on the glacier two other caravans got past us, and when we finally arrived at the Couvercle they had all the best places, had taken all the cover, and we were forced to wait until they had finished before preparing our evening meal.

That night we were seventeen in this little hut, scarcely 12 by 20 feet. Duval's wife and a friend were in our party, but the German-Swiss climbers who had arrived first refused to make way even for the women. It was not until Delmas in a threatening manner picked up his ice-axe, by way of punctuating his pointed remarks, that we were shown any courtesy.

No one could be more polite than the real Germans one meets in the mountains. They seem to know by instinct what Chamonix guides sometimes tell beginners—that above the snow-line all men are brothers. But there is a growing class of climbers who travel without guides, who occupy the free mountain refuges

for reasons of economy for days at a time, and who violate all laws of decency.

While the others were trying to sleep I slipped out of the refuge into the night air. The starlit scene was almost of unequalled grandeur. To the east were Les Droites and Les Courtes, rising rapidly 13,222 feet and 12,648 feet respectively; a little to the right was the sharp point of the Aiguille Ravenel, and, further, the Pass Talèfre, on which one of the brothers Ravenel, guides of Chamonix, had his feet frozen while crossing to Italy the same week in July that we ascended the Monk. To the south, bathed in moonlight, stood the Grandes Jorasses, rising two and a half miles, the last mile being so vertical that even snow does not cling to the rocks. Directly below the refuge was the wild ice-fall of the Glacier de Talèfre, with its leaning ice-seracs tumbling every now and then with reverberating crashes; to the south was the Glacier du Géant and its frozen Niagara; and on beyond the silent Mont Blanc, eight miles distant, terrible in its grandeur. From the Chamonix side Mont Blanc is a great smooth dome of pure white snow; seen from the Couvercle it rises menacingly. The view to the west is closed by the scraggy Monk. From the Couvercle no vestige of green is seen save the Jardin, an oasis in the snow-desert.

One half-hour after midnight the Germans dressed and went off towards Les Droites; an hour later another caravan started for the Aiguille du Midi. As day broke we dressed hurriedly, drank some cold coffee, and, gripping our axes, turned towards our peak.

Though everything about us was frozen tight, the

morning was perfect, the sky being a deep azure. Every now and then came the roar from an unseen avalanche. For the first few hundred yards we did not use the rope, although Duval grew somewhat nervous in crossing a hard, frozen tongue of snow, which ended in a precipice, for he did not possess the knack of making full use of his boot nails. Some climbers prefer the snow and ice to rock. Personally, I feel much more at home on snow slopes; but some good rock-climbers look down steep ice with something like terror.

Just before taking to the granite we roped ourselves together. Delmas went first, then Duval, and Schapereilli followed the second guide. Being last, I was in an advantageous position for photographing, and being accustomed to the ice and granite, I could look out for myself, while the arrangement gave both Duval and my other friend the advantage of expert assistance. When once well on the granite ledge we left our ice-axes behind as being of no further assistance, and considerably in the way where both hands would be needed.

We had scarcely made a good start when the first guide discovered that we were too far to the right, and instead of ascending the Monk proper we were climbing one of the gendarmes, or one of the lower pinnacles which stand guard over the mountain like a sentry. It was a bad beginning, but we were enthusiastic and took the matter philosophically. Losing the way, as I have said, is one of the difficulties in ascending the Monk. There was nothing left to do but descend and bear a little to the left. Again we were in the crags, which were becoming very precipitous. The guide again lost

the way—that is, if he ever found it—and we passed some rather dizzy places. I don't blame anyone if he cannot stand on a narrow ledge and look down a precipitous half-mile without uneasiness; but if one is inclined to vertigo in such places he would do better to confine his ascensions, as I have suggested before, to peaks frequented by cows. All of the Chamonix aiguilles, or needles, are more or less vertiginous, and the Monk is no exception. There were places where the guide literally climbed with his finger-tips. Once past the difficult ledge he installed himself behind firm rocks, and, keeping the rope taut, allowed the second and third to mount one at a time, while everyone else remained braced for a possible slip. In such places it is the man who goes first who does the perilous work.

Suddenly from behind came a noise like a great explosion. Looking over my shoulder, I saw across the valley a great avalanche of ice, snow and rocks tumbling from the Pic du Tacul down on to the Glacier de Leschaux beneath, starting echoes in unsuspected directions. Such avalanches are the incarnation of desolation and destruction. When we were well on the face of the mountain the sound of falling ice and rocks was almost incessant.

By hard, fast climbing we soon left the glacier far below. It was the finest exercise I think I ever had, for we climbed not only with our arms and legs, but with almost every muscle in the body, and the air was pure and cold. After four hours' nimble climbing, lengthened of course by our attempt to ascend the

almost perpendicular gendarme, we neared the summit. Looking up, one saw very little mountain and a great deal of sky. Then there was a patch of steep snow, and Delmas said we had arrived. Boring our toes in the snow slope, we scrambled up to the summit, a very small rocky table. On every side was a precipice. How can one describe the panorama! Below nearly one mile straight down was the Mer de Glace with the Montanvert Hotel only a speck in the distance. To the west were the Chamonix aiguilles, the Charmoz, the Blaitère, and the Dent du Requin; in the distance was the Mont Maudit, the Mont Blanc du Tacul, and Mont Blanc itself. The view to the south and east comprised that seen from the Couvercle with the advantage of the great altitude. Where we stood there was just room to lunch comfortably. Schaperelli played with a small French flag which was waving on top, and then inscribing our names on a scrap of paper stuck them in a bottle found containing the names of the successful ascensionists. It may be insane to climb such peaks—I suppose we are all more or less cracked—but the sensation of being there and watching the panorama with its ever-changing lights and shadows repays the toil and fatigue. It is the nearest approach to the sublime in nature, and this may account for the number of ascents made by priests. Alpine records and alpine graves are full of these men.

We remained on the summit more than half an hour, but as clouds were gathering we turned our faces downwards and commenced the descent rapidly. It was exciting work, and one had to be careful; but we passed



MR. BURLINGHAM AND PARTY
on the summit of the Aiguille du Moine. Mont Blanc
and the Chamonix Needles are seen in the distance.



LUNCH AT 11,214 FEET.

over ledges overlooking precipices without thinking of danger.

In going down our order was changed. Simond went first on the rope to show the way, Schaperelli followed about 15 feet distant, and I came next to hold him up; behind me was Duval, then Delmas, who was holding up us all. We kept our distances, descending in perfect order.

We must have again lost the way. At least the descent in a *couloir* became so steep that we halted, and Simond unroped and like a chamois went below to reconnoitre. Coming back after investigating, he replied that he thought we could descend safely. I noticed Duval was getting nervous by the way he kept jerking me up instead of paying out the rope. Once or twice when I had to jump to a ledge below I was almost pulled off my feet. Duval wanted to stop to get breath, but Delmas refused to halt the caravan, saying we were in an avalanche *couloir* where stones were continually coming down. Every now and then a small stone passed singing, its velocity making it invisible.

"Watch out in passing this slab!" called out Simond. "It's loose!"

Schaperelli and I passed gingerly. Simond did not want to dislodge the slab, which weighed two or three tons, for fear of killing a chance caravan below. Suddenly I heard a rumbling, grating noise above me, and Delmas cried out piercingly:

"Gare à la pierre!"

I jumped upward to one side. Fortunately it started moving slowly. Schaperelli, below me, mira-

culously succeeded in doing the same. Down it shot, gathering satellites, with ever-increasing momentum. Simond was directly in its path. It was all in a moment and no one had time to think. Down the stone thundered, upsetting other great stones, crashing and reverberating, the growing avalanche starting innumerable echoes. I literally held my breath, for Simond was missing. We all stood rooted to the spot, listening to the booming echoes now coming back from the Grandes Jorasses and the Pit du Tacul.

Almost instantaneously my mind dwelt on the perilous work of guides, and how they daily risk their lives for a ridiculously small pay. Suddenly from below a muffled voice cried out:

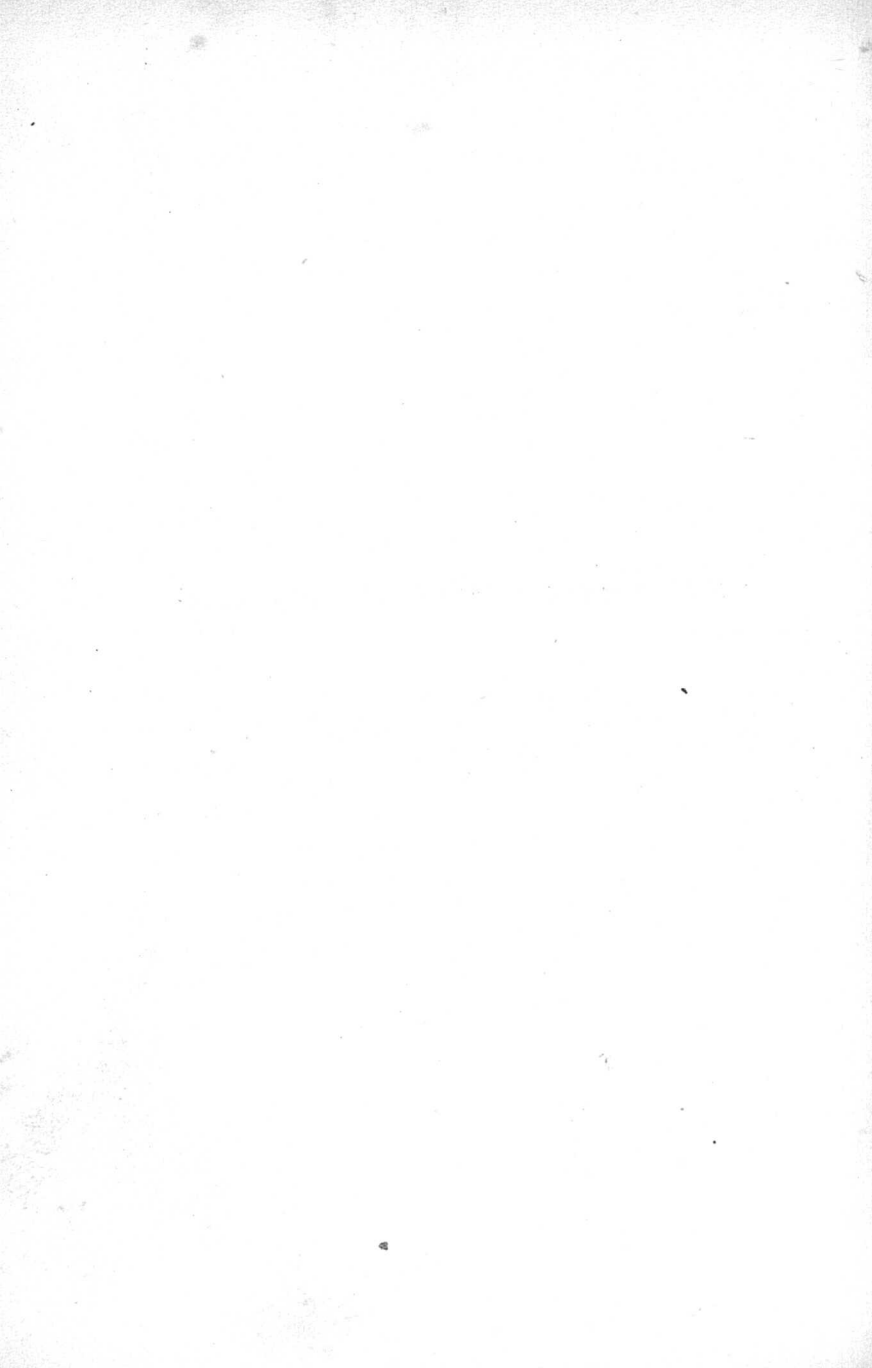
“ Is it all over up there? ”

It was Simond, safe after all. It appears that at the first cry of alarm, he, with his mountain instinct, crouched under a kind of ledge, and the mass of debris passed over his head.

“ That is about as close to an avalanche as I ever care to be! ” said he, less startled than we.

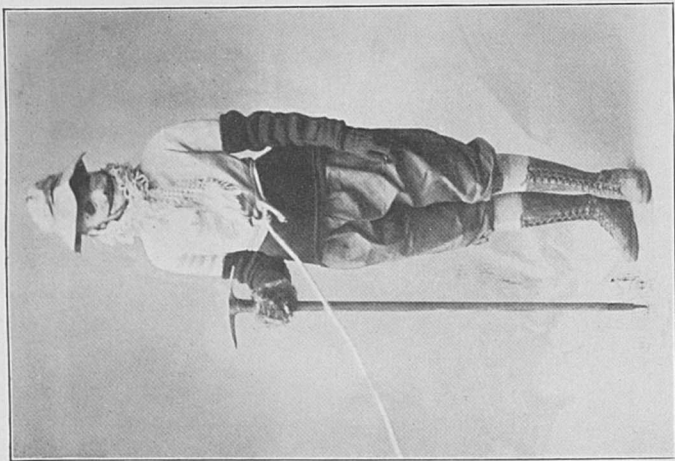
Reaching the snow once more, we regained our ice-axes and glissaded almost to the Couvercle, and by fast walking reached Chamonix that day in time for dinner, none the worse for our exciting experience.

Some Famous Women Alpinists





MRS. FANNY BULLOCK WORKMAN,
the Himalayan explorer, who holds the world's
altitude record for women, 23,300 feet.



MISS ANNIE S. PECK,
heroine of Mount Huascarán, in Peru.

IX

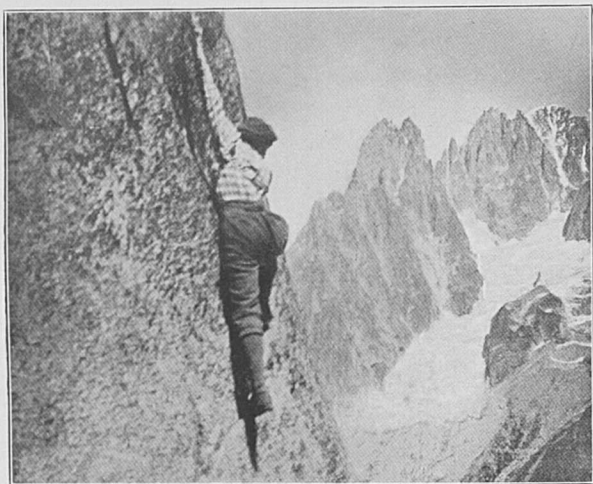
SOME FAMOUS WOMEN ALPINISTS

It may surprise some persons to know that mountain-climbing as a sport, considered by many to be the manliest, is one in which women to-day are attracting the most attention. For not only are women to-day climbing where only the most daring men have ventured, but in the Himalayas, the Andes, the Caucasus, Alaska and Norway, women recently have brought back fresh laurels, climbed virgin peaks, and established records of which any genuine explorer would be proud. It is true for the moment that man still holds the world's record for altitude, the Duke of the Abruzzi having exceeded 24,000 feet in the Himalayas not far from where Mr W. W. Graham some years ago reached the enormous height of 23,800 feet, but Mrs Bullock Workman, the American, not long ago ascended to the tremendous altitude of 23,300 feet in the Nun Kun Range, in Cashmere, and as she has been already eight times in the Himalayas, it would not surprise her friends to read, almost any morning, that she was at it again.

I do not suggest that mountain-climbing is a sport for every woman. Neither is it an occupation for all men. But for women with courage, sang-froid and initiative, mountain-climbing is a wonderful recreation.

After reading Miss Annie S. Peck's graphic account of her ascent of Mount Huascarán, in Peru, when, after a terrible day's struggle up steep ice-slopes, she would work preparing hot suppers while her sturdy Swiss guides slept with fatigue, one wonders sometimes whether women have not endurance or reserve strength surpassing that of men. Some time ago, with Madame Léontine Richard of Paris and a very agile guide, I had occasion to climb on Mont Blanc at a speed that would have embarrassed an ordinary alpinist not in excellent training, but never once did she halt the caravan to get breath, nor afterwards did she complain of the least fatigue.

Among the galaxy of women alpinists, probably the most distinguished is H.M. Queen Margherita of Italy, honorary president of the Ladies' Alpine Club. Mountain-climbers still recall her vivid experience of being caught in a storm on the Col du Géant, between France and Italy. It was in August 1888 that the royal party left Courmayeur, accompanied by twenty-seven persons, led by Henri Séraphin. On 15th August the Queen slept at the Mont Fréty Hotel, a small *pavillon* at the height of 7129 feet, where the mule-path ends. The next morning they started at four o'clock for the Col du Géant, but when near the top bad weather came on suddenly, as it often does in the Alps. The Queen was forced to take refuge in the *cabane* erected in 1876. The blizzard continuing, the royal party could not descend, and were forced to spend the night at this shanty, nearly 11,000 feet above the sea. The next day, the weather abating, the



Mlle. MARVINGT, THE FAMOUS FRENCH CLIMBER,
in a ticklish place on the Aiguille de Trélaporte.



MRS. AUBREY LE BLOND,
the well-known President of the Ladies' Alpine Club, of London.

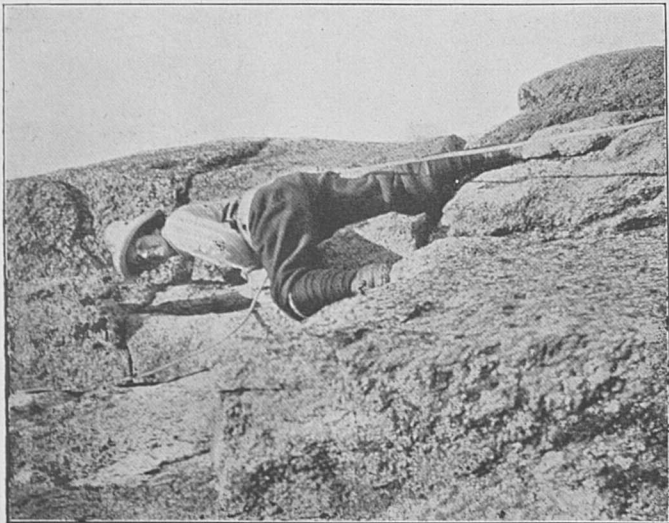
Queen descended to Courmayeur, none the worse for her experience.

The first noteworthy alpine climb made by a woman was the ascent of Mont Blanc made by Mlle. d'Angeville nearly a century ago. In those days it was not possible to sleep in a good bed at the Grands Mulets, at a height of over 10,000 feet, and breakfast at the Refuge Vallot, just under the Bosses du Dromadaire, two hours from the summit. Mlle. d'Angeville insisted on making the ascent, and all went well until she reached the Grand Plateau, an ice-field between the Grands Mulets and the Refuge Vallot. Owing to the rarefied air she sank down exhausted, and the guides in consultation talked of returning. But this remarkable woman would not even consider such a proposition; by pure will-power she ordered the caravan to proceed, and exclaimed, "Promise me that if I die on the way you will carry me up to the top!" So astounded were the guides at this enthusiasm that they replied simply, "Oui, mademoiselle!" Mlle. Angeville reached the top alive, however, but was even then not satisfied. After dancing a quadrille in the snow at 15,781 feet she said she wanted to go higher than Mont Blanc, and climbed up on the shoulders of the guides. Enthusiasm such as this will lead one almost anywhere.

The exploits of the two Misses Pidgeon are equally remarkable. These two women, who from their youth had climbed mountains, became so expert that they were capable of doing the work of guides if necessary. On one occasion, near Zermatt, while attempting to cross the Lys Joch, a comparatively easy, although

lofty, glacier pass, they lost their way in the increasing mist. There was nothing to do but get down somehow. Once started, they found themselves on the brink of an almost perpendicular wall. The guide went first to cut steps in the ice, but the porter proved so clumsy that when the opportunity offered one of the women changed places with him and undertook the responsible post of being the last on the cord, which means holding the others up in case of a slip. After working for hours in the fog, on the sheer face of the ice precipice, they finally reached the bottom safely, to learn the same night, to their utter amazement, that they had descended the dreaded Sesia Joch, which only once before had been climbed, and the descent of which hitherto had been considered impossible.

Probably the most remarkable of all the women climbers, or, rather, explorers, is Mrs Fanny Bullock Workman, daughter of ex-Governor Bullock of Massachusetts, U.S.A. She is a member of the Royal Asiatic Society of London, corresponding member of the American Geographical Society, charter member of the American Alpine Club, vice-president of the London Ladies' Alpine Club, Officer de l'Instruction Publique in France at the request of President Loubet, and was recently presented with the grand medal of the Club Alpin Français. Besides travelling extensively in Africa, India, Ceylon, Java, Asia Minor, Sumatra and Cochin China, she made three first record ascents for women in 1899 in the Karakoran Mountains, the highest of which is Mount Koser Gunge, 21,000 feet; in 1902 explored the thirty-mile-long Chogo Lungma



MISS DORA KEEN, OF PHILADELPHIA,
whose explorations in the Andes and Alaska
have attracted attention.

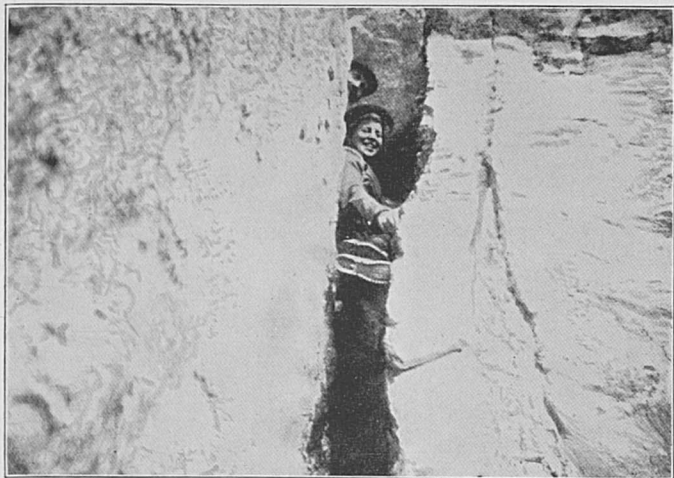


FRAULEIN ELEONORE HASENCLEVER,
of Frankfurt am Main, with the famous Guide,
Alexander Burgener, who lost his life
on the Jungfrau.

glacier in Baltistan; in 1903 made another voyage, exploring the Hoh Lumba and Alchori glaciers, climbing 22,568 feet; in 1906 explored the Nun Kun Range, climbing 23,300 feet—a first ascent—which to-day gives her the world's record for women; and in 1908, 1911, and last season, 1912, she was again in the Himalayas, finding a new range of mountains, which she has named after their Majesties King George and Queen Mary.

Climbing in the Himalayas is no small undertaking. Usually Mrs Workman sails to Bombay, and from there it is three days and nights to Rawal Pindi, where one may get a primitive vehicle for Srinagar, 180 miles further on, over rough mountain roads. Srinagar has been called the "Interlaken of the Himalayas," but to get from there to the Pamirs, 270 miles distant, where the Empires of China, India and Russia meet, is an arduous undertaking. On the latter part of her last journey in this part of the world Mrs Workman was accompanied, not only by Italian guides from Courmayeur, but by more than 280 native coolies. During the *traversée* of the Hispar-Biafo glacier in 1908 Mrs Workman's party was fifty days on the ice, from which fact one may imagine the hardships undergone. In this desolate country there is constant danger of accidents and avalanches which must be guarded against with unerring judgment, and even then no one knows what may happen. Some years ago M. Mummery, one of the greatest alpinists ever known, went to the Himalayas, and not one member of his caravan has ever returned.

Another American woman climber, Miss Annie S. Peck, has gained international fame by climbing in the Andes. She received her training in the Alps, afterwards climbing Mont Popocatepetl. She also made two noteworthy attempts to gain the summit of Mont Sorata, but met with insurmountable difficulties at the height of 20,500 feet, very near the top. Her great climb, however, was the recent ascent of Mont Huascarán, in Peru, 21,812 feet in height. Before reaching the top Miss Peck made three voyages from the United States to Peru, each time trying the mountain from a different vantage point. Finally she decided that nothing could be done without the assistance of expert Swiss guides, so Rudolf Taugwalder and Gabriel Zum Taugwald of Zermatt were engaged for the work. On their first attempt Miss Peck's party passed nine nights in the snow. Ten days later they started again, and although through an accident her aneroid barometer and alcohol stove went into a deep crevasse, Miss Peck and the two guides reached the summit. During the descent both Miss Peck and Taugwalder slipped simultaneously, and it was only by the remarkable *habilité* of Gabriel Zum Taugwald, my guide on the Matterhorn, that the whole party did not slide into eternity. Gabriel Zum Taugwald drove his ice-axe into the snow, at the same time turning the rope two or three times around the handle; and although his fingers got caught and were crushed by the rope, he held fast until Miss Peck and Taugwalder regained their feet. Once one gets the taste for mountain-climbing it is difficult to stop, and last winter Miss Peck planted a Suffragette



FRAU VINETA MAYER, OF VIENNA,
in the famous chimney on the Zimmer, Rax, in Austria.



MADAME MADELEINE FRANZ NAMUR,
daughter of Mr. J. Vallot, of the Mont Blanc Observatory.

flag on the summit of Mount Coropuna, one of the highest peaks in Southern Peru.

Another American who has done some excellent alpine-climbing is Miss Dora Keen of Philadelphia. Besides doing hard climbs at Zermatt and Chamonix, and several ascents in the Dolomites, Miss Keen has climbed in the Andes, the Canadian Rockies, and in Alaska. "Mountain-climbing," according to Miss Keen, "is a sport that seems to me so uplifting and beneficial, morally and mentally as well as physically, that I wish to encourage it."

Foremost among the English climbers is Mrs Aubrey le Blond, who has spent four summers climbing in Arctic Norway, where she has made numerous record first ascents. The name of Miss Kate Richardson, another English climber, will go down in alpine history as the one who has the distinction of being the first woman to ascend the Meije, the most difficult peak in the Dauphiné Alps; it is 13,000 feet high, and for years defied all attempts made to reach its summit.

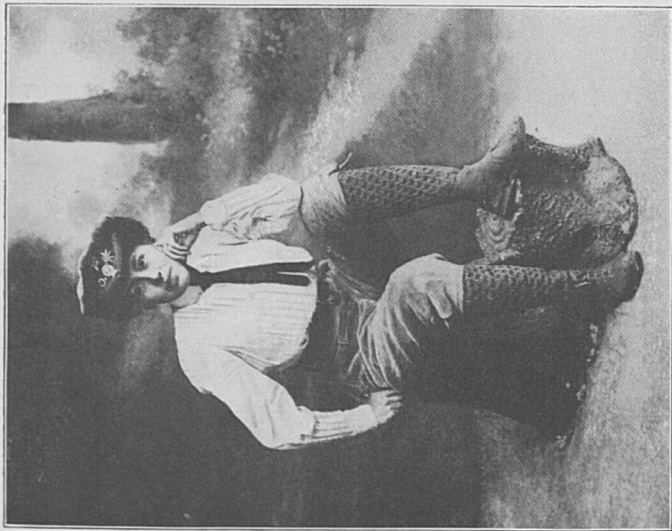
Among the daring exploits performed by women in recent years the winter ascent of the Great Schreckhorn in the Bernese Oberland, by Mrs Julian Grande, stands out unique. This summit, known to many as the "Peak of Terror," is considered by many alpinists as the most difficult in the Bernese Alps. Any number of climbers have been killed trying to get to the summit, even in summer. Mrs Grande, however, accomplished the dangerous ascent without accident. Before her marriage she was Miss Constance A. Barnicoat, daughter of the late Hon. J. W. Barnicoat, Member of the New

Zealand Legislative Council, and before the ascent of the Schreckhorn was known as a distinguished alpinist, having made a remarkable record in the New Zealand Alps and in the Dauphiné.

An ascent which in 1911 attracted considerable attention among scientists was the climbing of the Kazbak, 5400 metres, in the Caucasus, by the celebrated Russian alpinist, Madame Maria Preobrajenska, who lives at Vladikavakas. As she was the first woman to do the feat she was presented with a purse by the Russian Geographical Society, which is sustained by the Czar, and was asked by the Society to make scientific observations on the summit, which she did, leaving there one of the Society's thermometers among other instruments.

Another climber that should be mentioned is Frau Imminck of Holland, whose climbs in the Dolomites have made her an international reputation. This intrepid woman, not content with climbing the most difficult peaks of Europe in summer, has also made a number of difficult winter ascents.

In the galaxy of French women alpinists Madame Paillon stands in the foremost rank. At the age of sixty-one this courageous woman ascended Mont Blanc in a snow-storm, and at the age of seventy-five climbed the Balibier, returning to Grenoble by the rather difficult Brèche du Perrier. Her daughter, Mlle. Mary Paillon, of Ouillins, in the Department of the Rhone, is not only a distinguished alpinist, but in France is considered an authority on anything pertaining to mountain-climbing. Madame Vail, who started climb-



FRAU KATHE BRÖSKE,
of Zabrze, Preussisch Schlesien.



FRAULEIN MIZZI WOLF,
a famous Viennese Alpinist.

ing with her husband as a mere pastime, also has done some of the most difficult climbs in the Alps. A Frenchwoman whose climbs have attracted more than usual attention is Mlle. M. Marvingt of Nancy; and others whose names must not be omitted are Madame Madeleine Namur, daughter of the distinguished scientist, M. J. Vallot, Founder of the Observatory on Mont Blanc, who has twice been to the summit of this the highest mountain in Europe; Madame Maige, who was married not long ago at the Pass of the Petit St Bernard; and Madame Léontine Richard of Paris.

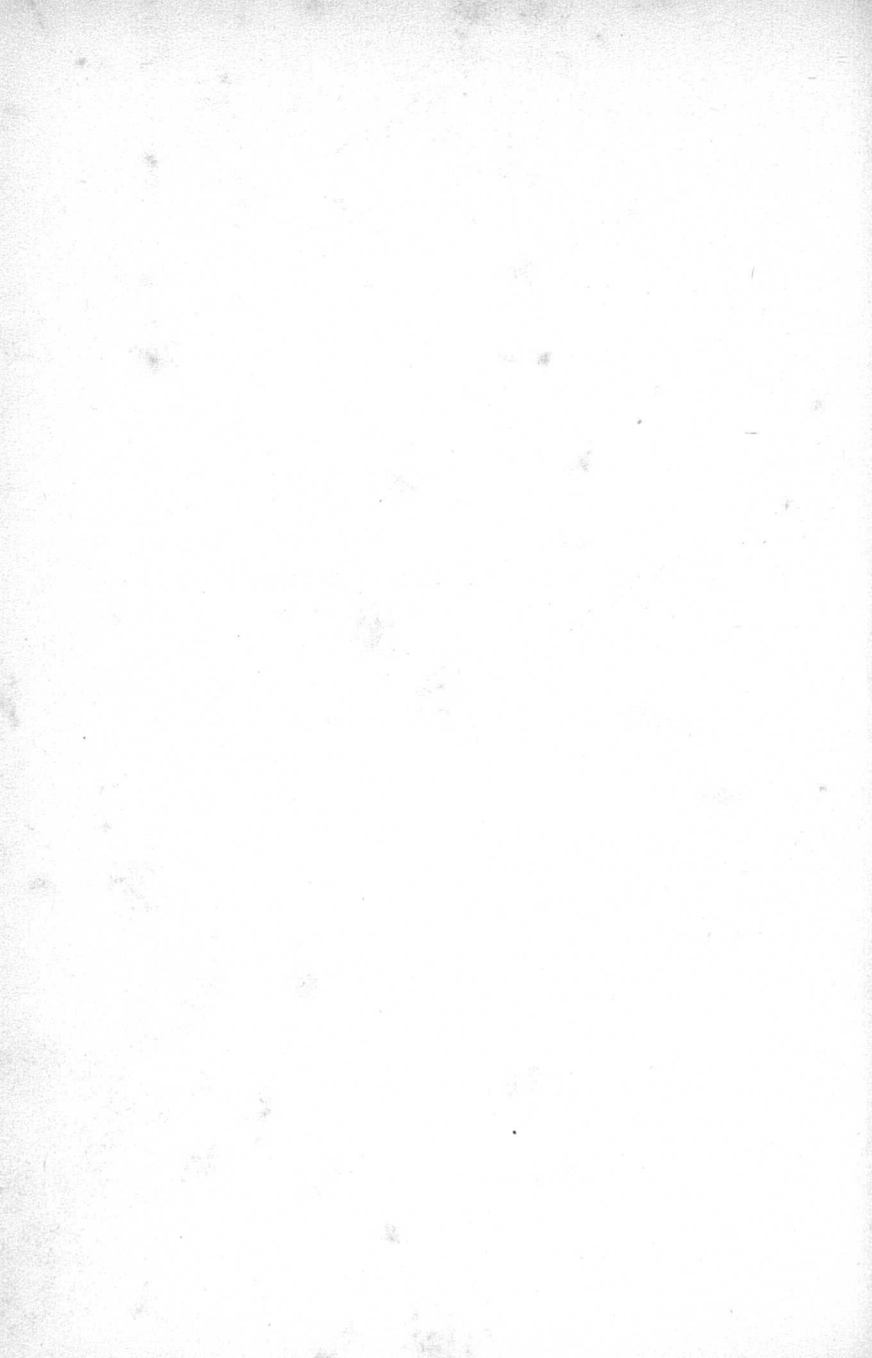
I have never seen Mlle. Eleonore Hasenclever, the well-known alpinist from Frankfort-am-Main, climb, but when she was at Chamonix last she startled everyone by her daring. She must undoubtedly be classed among the first four or five women alpinists now climbing.

Frau General von Reppert of Mainz is another well-known climber. Other names well known in Germany include Frau Rose Friedmann, an advocate of alpine sports for women; Frau Vineta Mayer, Mlle. Anna Zalaudek, and Madame Marie Weiler, all members of the Oesterreichischer Alpen Klub; Fräulein Elsbeth and Margarete Grosse of Meissen, and Frau Käthe Bröske.

Necessarily, in a chapter dealing with a sport which has so large a following, many distinguished persons have not been mentioned, a fact for which the writer craves indulgence,



Where Guides are Trained



X

WHERE GUIDES ARE TRAINED

SITTING in the Chalet de Lognan one evening waiting for dinner to be served, M. Laugel, the French alpinist with whom I had been climbing, remarked that it was a pity to spend the next day wandering about on the Glacier d'Argentière when we could take advantage of the extraordinary fine weather to do something particularly interesting.

This does not mean that the glacier mentioned is unattractive. On the contrary it is one of the most wonderful of all the glaciers in the Mont Blanc country, and is preferred by many to the famous Mer-de-Glace or Ice-Sea itself. In fact, it is very much bigger than the Mer-de-Glace proper, being nearly seven miles long, and the peaks enclosing this vast glacial river are terrific in their grandeur. We had with us a porter only, no guide, and the original intention was simply to walk this six or seven miles up the ice to the foot of Mont Dolent, returning to Chamonix early in the afternoon.

But M. Laugel had the mountain-lust. He wanted the excitement of climbing far above the glaciers.

I went to the window and looked out. The clouds were disappearing, leaving only the deep azure blue, and it was cold. It is strange this difference of

temperature. We were only a two hours' climb above the quaint village of Argentière, basking peacefully in the August sun, but here at Lognan it was uncomfortably chilly.

"I will ask Simond, proprietor of the chalet, what he thinks of our doing something classique," said Laugel.

Henry Simond, guide and hotel proprietor, is in the full vigour of manhood and one of the most intelligent men I ever walked with. When M. Laugel explained our predicament he volunteered immediately to go with us.

"We can cross the Glacier d'Argentière to the moraine leading up to the Glacier du Chardonnet," said M. Simond. "Crossing by the Col du Chardonnet to the Glacier de Saleinoz, we then climb to the Fenêtre de Saleinoz, a pass between the latter glacier and the Glacier du Trient; from the latter we may pass to the Glacier du Tour by the Col du Tour and descend on the village of Argentière by the village of Tour."

Five glaciers and three mountain passes above 10,000 feet in one day!

What interested me about this excursion was that it is the reputed training-ground for Chamonix guides. In passing one encounters a little of everything—rock, glacier, moraine, steep ice, steeper snow, crevasses and bergschrunds. Years ago it was through here porters were taken by guides—the latter acting as tourists—and if the porters succeeded in taking these official judges satisfactorily through the difficulties, then they received their brevets.

Examination of novices, I am told, has now been abandoned in France, as the porter, nowadays, when he attains the age of twenty-five, and after having climbed Mont Blanc, the Buet descending to Sixt, made the passage of the five glaciers in question, and having accomplished at least ten other extraordinary courses, automatically becomes guide. Years ago French guides kept parchment-covered books in which tourists wrote their appreciation or complaints.

This custom, too, has fallen into disuse. In France at present one chooses a guide by his reputation or upon the recommendation of an alpinist friend.

It is true there is at Chamonix a Bureau des Guides, where the enrolled guides take turns at being engaged, but while this gives the unfit guides a chance, the unsuspecting tourist applying there may find the bureau has given him a drunkard, a guide quite incapable of expert climbing.

Most bureau-chosen guides may be all right for ordinary courses, but when expert assistance is required the alpinist will do better to choose his guide without recognizing the official bureau.

In Switzerland guides are licensed by the Government, their record books are regularly examined by officials, and a guide may be suspended even for impoliteness to his tourist.

After one of the best dinners I ever had in the mountains we turned into bed in high spirits, leaving a call for 1.30 in the morning.

When the knock came I dressed speedily, for it was very cold, and descended into the dining-salon. From

the window one could see the ice-fall and giant seracs of the Argentière Glacier, the towering peaks beyond, and the stars glowing with exceptional brilliance.

At two o'clock we shouldered our sacks, took our ice-axes, and with our porter trailing behind followed Simond and the light of his alpine lantern. The cold was biting, but fortunately in dressing I executed the old mountain trick of plastering newspapers under my outer clothing, which act as a warm protection in the early morning and which can be thrown away when the sun beats down upon the snow.

We climbed slowly and steadily, reaching the ice in about one half-hour. For a short distance we went parallel with the giant moraine on our right and then took to the moraine itself, the guide considering it wiser. The moraine was steep and dark and everything was frozen tight. On all the rocks was *verglas*, a thin coating of ice which made them very slippery. It was no place to fall, however, and we went very cautiously, crossing now and then snow gullies also covered with *verglas*, which necessitated cutting steps. If this ice coating had been on a city pavement there would have been persons tumbling and broken arms, with the continual cry of danger. In the mountains, however, no one as a rule is killed in really dangerous passages, for every precaution is taken to guard against accidents; moreover, one gets hardened to danger, and walking on ice-coated ledges, where one false step would mean a tumble of 150 feet, incites no fear. "Interesting" is the adjective the French apply to such places.

Once above the seracs we went down again on to the glacier. It was just one mile wide at this point and the entire surface was covered with minute ice crystals. In the moonlight the crystals flashed all colours of the spectrum, and coming from millions of ice-diamonds the spectacle was unusual. I have never seen, in fact, so much colour before or since that night. It was about 3 A.M.

The view was magnificent. On the left were the Aiguilles Chardonnet and Argentière, rising 12,543 feet and 12,799 feet respectively, the white summits bathed in moonbeams, presenting a strange contrast against the very deep azure of the starlit sky. Further on was the Tour Noire, 12,608 feet, and straight up the glacier, three miles or more, towered Mont Dolent, 12,566 feet above the sea.

A great many amethysts are found about here, and tourists, even those who do not climb, often pick up fine specimens that have tumbled down on to the flat glacier. To the right, at the head of the valley, stands the Aiguille de Triolet, 12,727 feet, from the summit of which one may look straight down on Italy; and completing the arc to the right are Les Courtes, Les Droites, and lastly the great Aiguille Verte, 13,540 feet, so steep on this side that wet snow will scarcely cling to the rock. It is one of the maddest precipices in the Alps. When I was in Chamonix I was told that a climber had asked for a guide to make this climb from the Argentière side. He agreed to pay the guide one thousand dollars provided they succeeded, two hundred dollars in case they failed, and one thousand dollars to his family if

they never came back. I have not heard since whether they went.

Dodging crevasses, we crossed the glacier and took the steep moraine on the right of the Glacier du Chardonnet leading up to the col of the same name. The frozen condition of the moraine kept loose rocks from tumbling and upsetting those in the rear. Just before going on to the ice we breakfasted.

The climb to the Col du Chardonnet, or pass, 10,978 feet, which is the lowest depression between the peaks d'Argentière and du Chardonnet, we reached without even being roped, although owing to *verglas* it was necessary to cut a large number of steps in the glacier. Once on the col we halted, and with Simond I climbed out over steep rocks and succeeded in getting an interesting photograph, which has since been in considerable demand by my alpine friends. On the other side of the pass, however, was the steepest snow-slope I had at that time ever encountered, and we either had to take to this snow, descend precipitous rocks, or else turn back on our steps. There was no other way. The snow-slope, I have been told, is about 70 degrees, and is attempted only when the snow is in good condition.

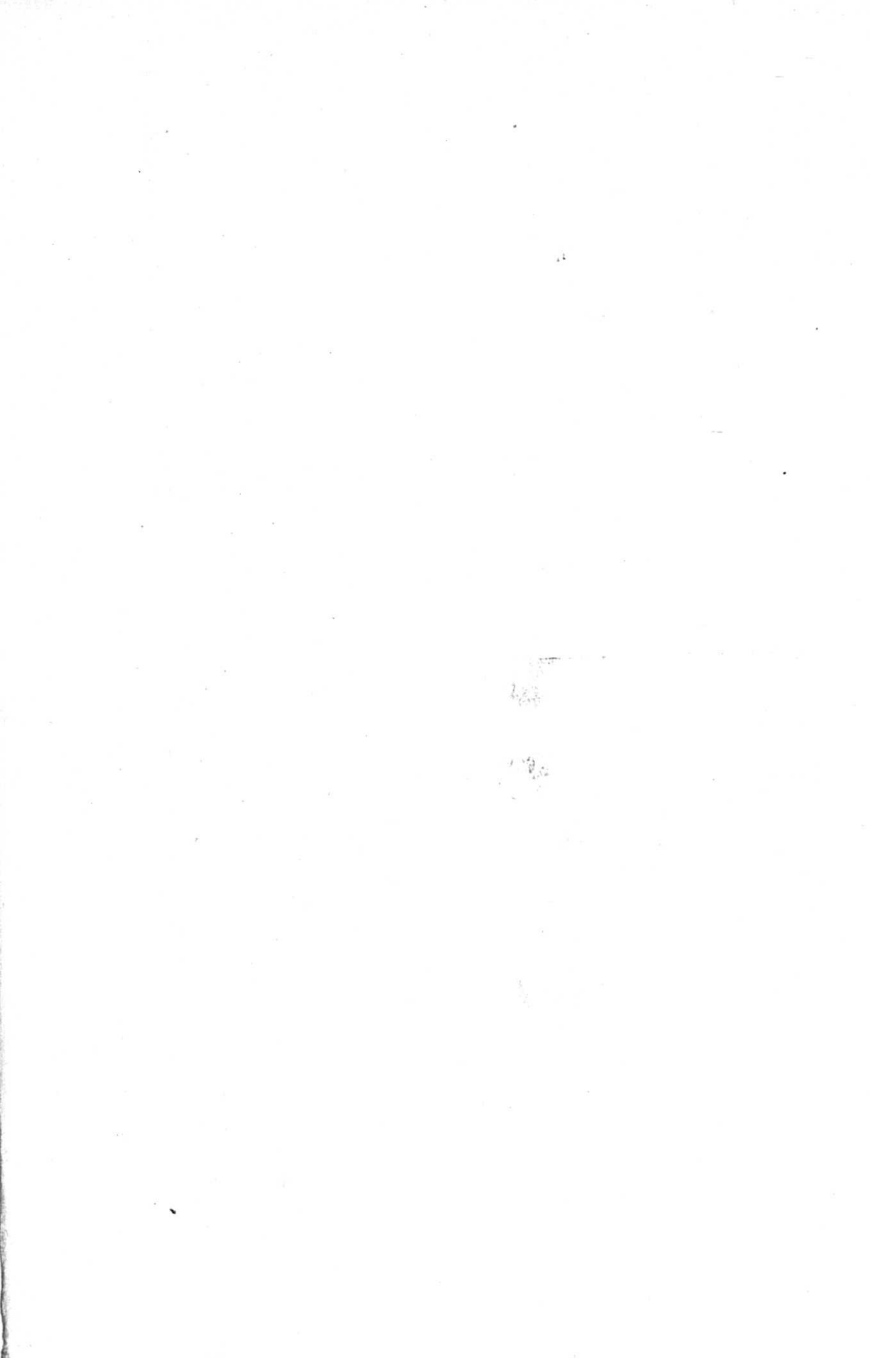
We had two ropes and attached them both together in order to have the greatest protection possible. The porter went first, with his face turned inward and his body leaning against the snow-slope, the ice-axe being flat against the snow, the pick end being buried. When all the rope between us was payed out I followed in the same position, the upper part of the rope almost scratching my nose, while the end leading to the porter was



ON THE GLACIER DE SALEINOZ
after having descended the snow slope seen in distance.



LOOKING SOUTH-EAST FROM THE FENÊTRE DE SALEINOZ
across vast snow desert towards the Point des Plines,
Le Darrei, and Le Tour Noire.



taut between my legs. It was necessary to put my feet exactly in the holes made by the porter, and to see what I was doing I was forced to look down between my legs. All I could see of the porter was the top of his hat almost directly below me. Laugel then took his place, and once on the slope he sent down constant little streams of hissing snow. As long as it was possible the guide Simond remained firmly anchored above to hold us all in case of mishap. Finally he took his place and no slipping was allowed. Had one tumbled all four would have gone down, for in snow so steep there is not much chance of holding another up, and had an accident occurred we should all have gone down, probably into the bergschrund which exists always at the bottom of such snow-slopes. Laugel began by putting his hands also into the holes made for the feet and soon was crying out that his hands were freezing. Once or twice the snow steps broke away from under the feet, but we succeeded in getting down on the Glacier de Saleinoz without increasing very much our heart-throbs.

In crossing the Col du Chardonnet we had crossed from France to Switzerland. I had some French cigars in my pocket, but there were no Custom officers to bother us. I think I should almost be willing to live in this everlasting snow if I could wipe out of my mind the poverty, the greed and corruption which mankind has sowed broadcast into the plains below, and such valets of the propertied classes as gendarmes and Custom officers.

Above 3000 metres, it is said in France, all men are brothers and man deals frankly with man. The vermin

of the human race rarely climb into these high altitudes.

After walking about a mile and a half in the snow we reached the steep snow-slope leading up to the Fenêtre de Saleinoz, 10,856 feet, so called because the pass leading through rocks on the summit resembles somewhat a window. Projecting through the steep snow was a ridge of rock. Simond, who went first, stuck to the snow and we crossed the bergschrund and began the ascent, I bringing up the rear. Suddenly I heard a hissing sound above, and looking up saw a small avalanche start. "Watch out!" I cried, "there is some snow coming!" We braced ourselves and waited. It was fascinating to watch the snow forming in balls and rolling down at tremendous velocity. Fortunately it picked up no rocks. One ball seemed aimed at Laugel. As it arrived he planted his toes in the middle of it, splitting it so that it passed on either side. The avalanche had nothing dangerous about it and similar ones are constantly occurring on such snow-slopes. Sometimes, however, when the condition of the snow is very bad, stones and even men are picked up, buried and crushed in the swift-rolling masses.

We lunched at the Fenêtre.

What a view we had on the Swiss side!

Near by was the Grand Combin, covered with eternal snow, and in the distance one could see the Dent Blanche and most of the great peaks between the Weisshorn and Monte Rosa, including the great precipitous peak the Matterhorn, at Zermatt. Below us in the green haze was the Val Ferrat, through which

flows the mountain river Dranse. At the Fenêtre there was scarcely room to sit down, and one dared not walk far without being roped.

In crossing to the Col du Tour we stayed on the side of a moderately rapid snow-slope in place of descending on the Glacier de Trient, arriving in a short half-hour.

From the Col du Tour, looking to the left of the Pointe d'Orny, there lay stretched before us the tremendous panorama of the entire Bernese Oberland, the white summit of the Jungfrau glistening in the sunshine. Looking across the Glacier du Tour were the Aiguilles Rouges and the various chains beyond extending to the west. Further down on the glacier one has a fine view looking on Mont Buet.

From the Col du Tour the descent is very easy to the glacier, which is nearly two miles wide, and after crossing a few crevasses which present no difficulty whatever one takes to the moraine on the right, striking almost immediately a path used by goats left on the high pastures to graze.

At four o'clock we had descended to the village of Tours and shortly afterwards reached Argentière, from there taking the train back to Chamonix.

Playing with Death

XI

PLAYING WITH DEATH

WHEN I was considerably younger I tried to climb Mont Blanc, without guides, in one day.

It is a crazy enough undertaking under favourable circumstances, to climb the highest mountain in Central Europe without guides in one day when everyone else takes two, but the project allured me and I determined to try anyway, conscious of the risks. I might as well say to begin with that such climbing is contrary to the best alpine traditions, is forbidden even for guides by their own syndicate, and is against my own better judgment, for nine-tenths of the deaths in the mountains occur in just this way.

It happened like this. Just before dinner I was talking with M. Tairraz, the Chamonix photographer, when in came M. H. J. Beaujard,* who was the only person who ever climbed the famous Aiguille de la Republique, to accomplish which he was forced to shoot the scaling rope over crags above him with an *arbalète*. M. Beaujard, when I asked him where he was thinking of going, said quite unconcernedly that he was going alone up Mont Blanc.

"Well, you have plenty of nerve!" I said.

"Come along," he said; "two are safer than one."

* M. Beaujard died in 1911.

I have plenty of rope and the climb won't cost you anything."

Under ordinary circumstances climbing Mont Blanc is rather expensive. The guides cost 100 francs and the porter 50; besides, sleeping and eating at the Grands Mulets, 10,000 feet above the sea, is expensive.

The idea of climbing for nothing, therefore, was attractive.

"If you decide to go," continued M. Beaujard, "meet me at the statue of De Saussure to-night at 11 o'clock."

As I was staying at Les Bossons, some distance away, I had just time to catch the train, eat dinner and change my clothes to get back to Chamonix in good time. As I sat on the café terrace waiting for the hour of rendezvous, Mont Blanc, frigid and desolate, was crowned with twinkling stars, while down below, across the Glacier des Bossons, the lights of the Chalet des Pyramids gleamed ever so faintly through the blackness. Suddenly the huge, powerful figure of Beaujard appeared, leaning against the De Saussure monument, and the hour to start had arrived.

Shouldering our knapsacks and gripping our ice-axes we struck out into the night for Pierre Pointue. While all Chamonix was turning to bed we two, without any rest, started on our crazy expedition. Besides carrying provisions for two days, and a camera each with tripods, M. Beaujard had 150 feet of rope, which we carried alternately. The maximum load for a porter on Mont Blanc must not exceed 20 lbs. and we started with more.

M. Beaujard asked me to set the pace. Owing to the magnitude of the task ahead of us every particle of energy was conserved, and for this reason we climbed silently in the darkness, for talking interferes with breathing. Steadily we climbed without once halting, and as the air grew colder Chamonix below seemed to fade into the night mists. Above the sky was immaculately clear, so limpid, in fact, that one could see on beyond the stars.

We were already above the dark, dank pines, and, forgetting the valley slumbering below, we tried to pierce the gloomy shadows ahead to see the cabin at Pierre Pointue. It blended with the crags, however, and it was not until we were nearly there that we could distinguish its outline.

But we had no time to stop. We planned to go on the glacier at the first sign of day, and we were still some distance from Pierre l'Echelle. Leaving to their slumbers whatever inhabitants there were at Pierre Pointue, we pushed onwards steadily at considerable speed. We were still on a fairly good path, which while frozen presented no difficulties. There were places, it is true, where if one stumbled and fell he would go a long way, but then one is not supposed to fall.

As one eats little but often in the mountains—about every two hours—we decided to breakfast in a place where there was water and where we were sheltered from avalanches, which are continually tumbling off the Aiguille du Midi. One has to pay considerable attention to these avalanche paths, especially late in the day when the snow is melting.

Soon the sky began to grow bluer, and re-shouldering our baggage we quickly passed Pierre l'Echelle and went out on the ice.

It was one of the most wonderful mornings imaginable. The snow mountains were pink and gold, and the Aiguilles Rouges across the valley of Chamonix red and deep violet. If an artist had painted these real colours critics would have called him a liar. One could see on beyond, far across Lake Geneva, for the air was perfectly limpid. It is nearly always this way before bad weather. Behind us, looking in the direction of Mont Buet, one could see the snow-clad Bernese Oberland ever so distinctly.

The snow being hard at this early hour we made rapid progress and soon reached the "Jonction" of the Glaciers des Bossons and de Tacconnaz, the most crevassed part of the route up Mont Blanc. There has been more than one accident here, but as the season advances Mont Blanc guides place ladders across the most difficult crevasses, and by crawling over on one's hands and knees these passages present little difficulties. Still, one always must be careful, for there are numerous snow-bridges over hidden crevasses. Climbing only two together, as we were, forced us to double this precaution, for it is sometimes practically impossible for one person alone to pull another out of a crevasse, especially if he be injured by the fall and partly disabled.

We passed the "Jonction" safely, however, and were soon climbing the snow-slopes leading up to the Grands Mulets. Finding some wooden box lids in the snow, we added this firewood to our already ponderous

burdens. M. Beaujard said there was no use climbing the rocks to the refuge, so we ate breakfast with the cliffs on the left and on the right a yawning crevasse.

Both M. Beaujard and I had forgotten our watches, but judging from the sun it was about six o'clock. We had been climbing steadily for seven hours, without having taken any repose after the previous day, and we had arrived at the Grands Mulets, where the climb usually starts. In spite of the already great handicap of being overloaded with provisions, rope, cameras, tripods, plates and a considerable supply of firewood, we had the advantage of being young, fresh and in buoyant spirits, and after a halt of fifteen minutes struck out for the Petit Plateau. Owing to the limpid atmosphere and burning sun the snow was rapidly getting in bad shape, and with our loads we sank into the soft white surface. As we progressed, walking became more and more difficult. As a rule, in starting very early from the Grands Mulets climbers have hard snow to walk upon for five or six hours. We, however, were forced to work like pack-horses from the very beginning of the hard climb. The marvellous beauty of the scene, which defies description, and its kaleidoscopic changes, urged us higher and higher. To the right were the snow-cliffs of the Dôme de Goûter, from which, at short intervals, thundered down avalanches, and on our left were the precipitous slopes of the Mont Maudit, the Mont Blanc de Tacul and the Aiguille du Midi. Owing to the soft snow we were four or five hours reaching the edge of the Grand Plateau. Parties in Chamonix who were watching us with telescopes told us so later. We did

not turn back, as they expected, but our progress became slower and slower. We were already nearly 13,000 feet.

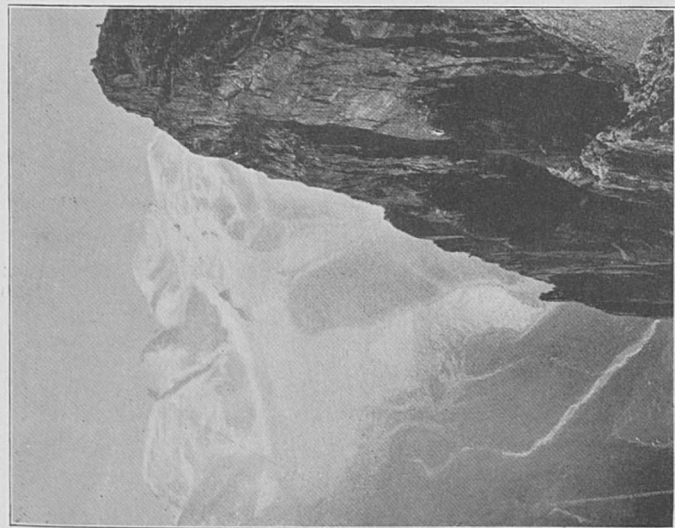
What is the use of hurrying!

M. Beaujard said it did not matter to him how long we remained above, and as we were not trying to break records there was no reason why we should not spend the night if necessary at the Refuge Vallot just under the Bosses des Dromadaire. Consequently we drove our ice-axes into the snow and sat on the flat blades to rest. The day was perfect, and as we sat gazing at the wonderful panorama I was satisfied with our adventure, even if we went no higher. Far away below us spread out Lake Geneva, and against the horizon were more snow mountains rising skyward with unsullied grandeur.

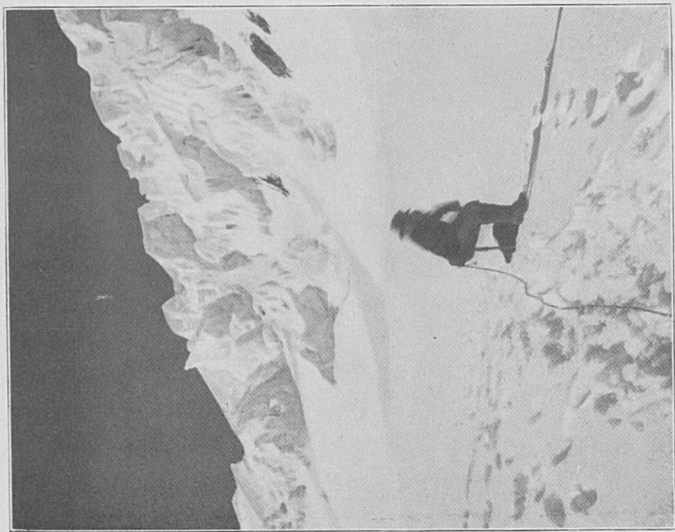
Down in the valley one is constantly confronted with the blunders and imperfections of man. Here, among the gigantic ice-seracs and eternal snow where man has not meddled, one has the sense of the sublimity of Nature.

As it was not possible to sit on our ice-axes for ever we re-shouldered our heavy sacks, which were becoming heavier every moment owing to the rarefied air and the deep soft snow which made climbing so difficult, and turning to the right began the ascent of the snow-slope leading up towards the rocks where the Refuge Vallot is chained. This slope seemed interminable. Once during a short halt M. Beaujard dropped off to sleep.

"Here, don't do that," I cried out, shaking him roughly. It was with some trouble I roused him. When he got on his feet he realized what had happened



MONT BLANC AND THE BRÉVENT.



SÉRACS ON MONT BLANC
near the Grand Plateau. Traces of a fallen avalanche
are seen below them.

and said we must push on to the refuge. Many of these little naps in the snow have no ending.

At last we struck some harder snow and slowly mounted to the refuge, a little cabin spiked to the rocks, 14,310 feet above the sea. It was about the dirtiest place I have ever seen. The stove was buried in snow, tin cans and half-eaten food littered the floor, and the blankets were in an indescribable condition. As we were hungry, we went to work and dug out the stove, and with the help of a little petrol soon got a fire started, which if it did not warm us at least gave enough heat to melt snow, which we were driven to use, there being no water. The firewood, therefore, which had cost us such an effort came as a boon. We were too tired to eat much, and, as the wind was rising and with it came bitter cold, we both crawled into the horrible bunk and pulled over us all the blankets we could find.

"There is no use trying to make the top to-day," said M. Beaujard. "Besides, there is too much wind on the Bosses."

It is over these precipitous slopes the summit is reached, and one has to be careful not to be blown off. If caught in the wind guides usually take tourists slantingly below the ridge of the Bosses, slantingly across the snow-slopes. With three on the cord a slip under these conditions is not necessarily fatal. It is not comfortable to think of what might have happened had either I or Beaujard slipped while crossing this steep slope.

Cold and tired, we made ready to sleep. It must be remembered that we had not slept the night before.

Outside the wind came moaning and shrieking in furious blasts. Had we not known that the refuge had wintered whole seasons of hurricanes we might have felt insecure in this shanty. From the frosted window it was impossible to say whether it was snowing or whether the air was filled with dense clouds of snow-drift. It was evident, however, that the clouds were thickening and the gloom increasing. Half dozing, I began to ruminate on the fate of the Rev. G. M'Corkindale, Mr Randall and Mr Bean, who, with three guides and five porters, lost their way on Mont Blanc and perished.

Suddenly I heard someone call. It seemed impossible out in the blinding snow, and I waited, not wishing to leave the blankets and get chilled. The cry, however, was repeated distinctly, and I jumped to the window. Scratching away the frost, I saw on the steep snow-slope below the ridge of the Bosses a small caravan fighting against the wind and snow and trying to reach the refuge. The four figures loomed out through the snow mist like an apparition. In the party was a woman. Exhausted, they made for the refuge.

I have never seen such a sight in the mountains. Every one of the party of four were ill with mountain sickness, which may be likened to *mal-de-mer*, and under the circumstances, naturally thinking only of themselves, they soon made staying in the little cabin with its windows closed practically impossible. M. Beaujard and I went outside in spite of the wind for fresh air. The sick party got no better, and to cap the climax

announced that they were too fatigued to continue, and proposed spending the night at the refuge.

Here was a nice pickle. The question was what to do, as it was already getting late, and just under the summit of Mont Blanc is no place to sleep outdoors. We had decided earlier in the day to spend the night at the refuge, and the day following to move about freely on Mont Blanc and the Dôme de Goûter, as M. Beaujard wanted specially some photos of the Aiguille de Bionassay.

"There is nothing to do but retreat," said M. Beaujard, chagrined, "and that quickly."

Gathering up our belongings, therefore, we turned downwards towards the Grand Plateau, the Grands Mulets and Chamonix. We roped up, M. Beaujard leading. We had only two alternatives: either to make for the Grands Mulets and remain there, which neither of us wanted to do, or else do our utmost to pass the Jonction with its crevasses and ice bridges and get off the ice before dark. We decided to attempt the latter.

Where I had before met amateurs descending Mont Blanc, taking care to plant their feet in the footprints made by the leading guide, M. Beaujard and I passed making glissades. This was done by leaning slightly on our ice-axes and digging our heels into the snow-slopes, letting ourselves slide in a half-erect posture. Being on the rope, however, we were continually jerking each other up, as it was impossible for us both to slide at the same time and at the same speed.

As it was getting dark and we still had a very long way to go, M. Beaujard suggested that we unrope.

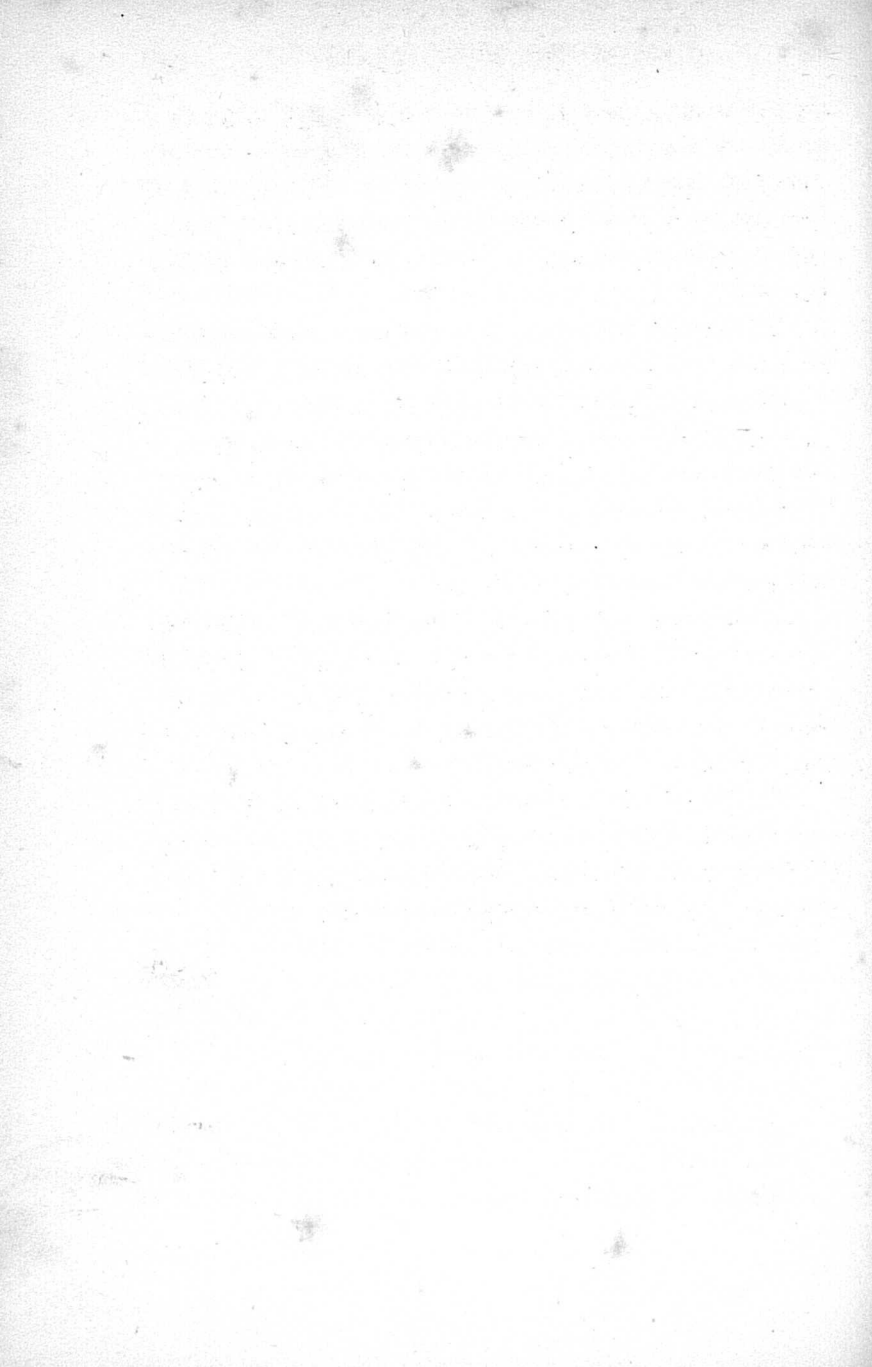
This was a flagrant violation of alpine custom; but then we were responsible to no one, and in case of accident no one would be to blame. As M. Beaujard had the heavier photographic apparatus, I wound the heavy rope around my shoulder and waist, and, separated, we began sliding down the steep slopes much faster than before. Undoubtedly it was foolhardy, but both of us forgot our fatigue in the exhilarating excitement. Now and then we saw quickly below us a yawning crevasse. The first to see it called out, and by braking with the ice-axe we pulled up in our mad descent just above the brink. With some little reconnoitring we found the way around and quickly began again the slide downwards. Places that took us hours to ascend we passed in a few minutes. It was a vibrating sensation to play with death and with strength and skill each time to snatch the victory. After passing the Grand Plateau our rapid descent began to attract attention. Looking below to the Grands Mulets we could see a small group of spectators rapidly getting larger. Some guides who were at the lower refuge told me afterwards that they thought we were descending to report a fatal accident, and that everyone expected, owing to the mad speed we were making, to see us disappear into a crevasse. Before we got opposite the Grands Mulets even the cook had joined the surprised group. I felt I was making a fine reputation as a *casse-cou*, but reputation was thrown to the wind with rare prodigality. The game was to get off the ice before dark and if possible to make Chamonix in time to eat and drink before every place was closed. We almost tobogganed past the

Grands Mulets, where there are several ugly crevasses, and took the rather steep slope leading down to the Junction, glissading where possible. Within a few minutes we arrived safely at the Junction without one slip or false manœuvre. It must have been a record descent.

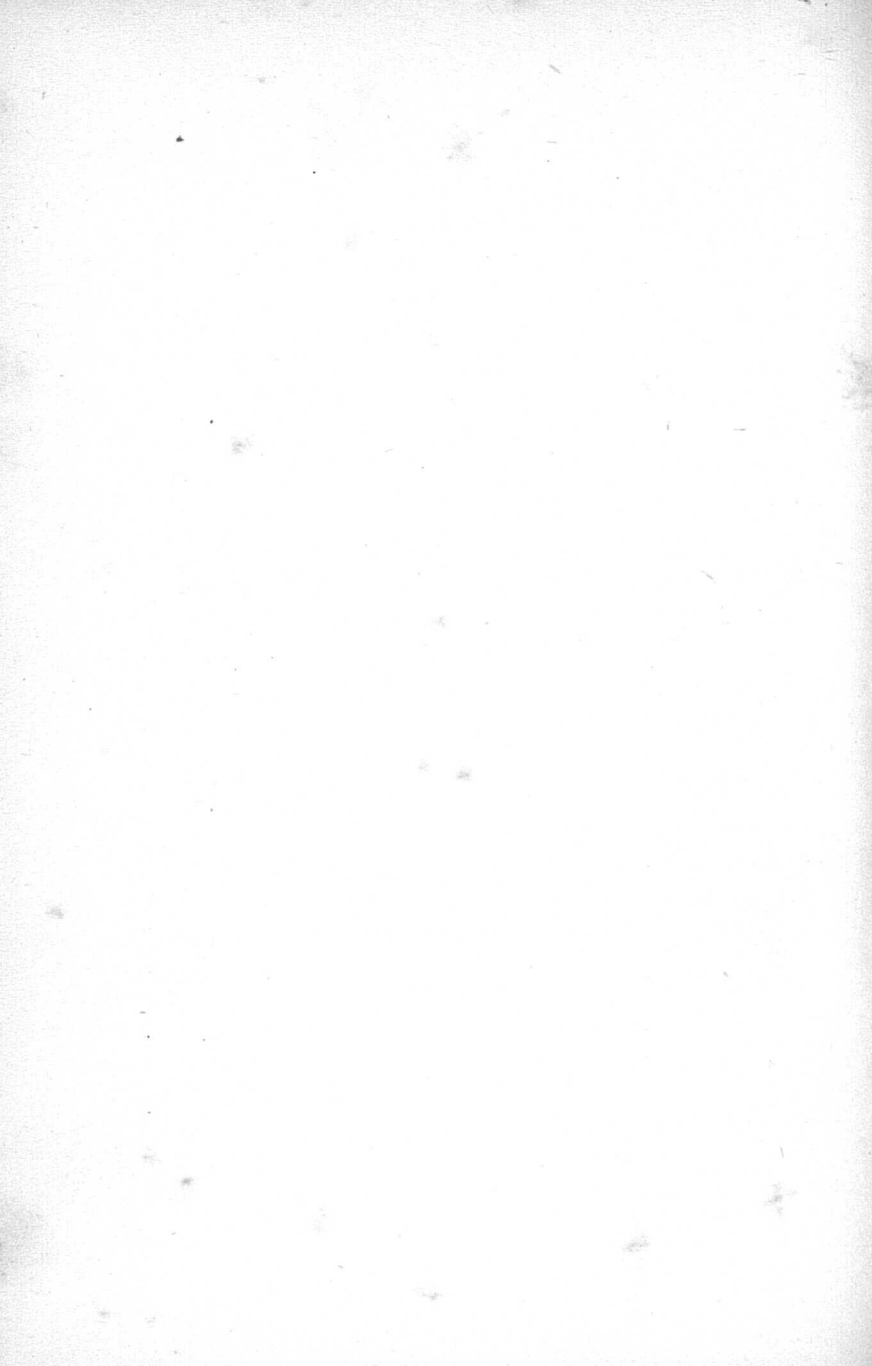
We crossed the Junction slowly with precaution, as we knew then we could get off the ice in time, and then struck out for Pierre l'Echelle and Pierre Pointue. Once on solid ground our speed was limited to our leg power. We took all the steep short cuts, but from Pierre l'Echelle to Chamonix is a long, tedious descent. We almost wished for snow-slopes in spite of the deadly crevasses and growing darkness.

But even the paths through the pines have an ending, and shortly after ten o'clock that night, after climbing almost steadily over twenty-three hours, we reappeared in the Chamonix Valley, our blood boiling but none the worse for the adventure.

Candidly I admit such mountain climbing is crazy, but when I think of the Refuge Vallot, with its caravan of climbers ill with mountain sickness, I feel I have some sort of excuse for such rash conduct.



Rock Climbing on the Clochetons
de Plan Praz



XII

ROCK CLIMBING ON THE CLOCHETONS DE PLAN PRAZ

GETTING caught in a snowstorm while climbing a granite needle 8000 feet above the sea is sufficient to take the starch out of anyone's courage. It is taken for granted the reader knows what an alpine storm is.

To make matters worse the way down only could be guessed and night rapidly was settling down. The gale blew in icy blasts threatening every minute to upset our equilibrium, and owing to the intense cold our fingers froze repeatedly to our ice-axes. It is a great imprudence to risk being overtaken in the Alps by bad weather. In fine weather the mountains often are as docile as lambs, but when the elements get ugly they avenge themselves fiercely. In the ensuing struggle the alpinist requires all his skill, his daring and strength to prevent himself from joining involuntarily the already innumerable caravan of victims. In descending in the fog I reached a point more than once where two steps more would have proved fatal. One has to divine that these next two steps are fatal and turn back in time. This comes only after long experience. Many amateurs without this intuition go on, and I am convinced now that it is very easy, under similar circumstances, for the inexperienced climber to get killed. The only apology

for such imprudence is that we were after some new photographs, as the Clochetons never before had faced a camera, and we took chances with the weather rather than admit failure. I got the pictures, and then, almost too late, we began the careful and dangerous retreat.

ON THE BACKBONE OF THE RED NEEDLES

We were on the backbone of the Aiguilles Rouges, north-west of Chamonix. These particular three pinacles, which have been named by guides the Clochetons de Plan Praz, or bell-turrets, lie against the skyline between the Brévent and the Aiguille de Charlonoz, and tourists to the Plan Praz Hotel may distinguish them by going directly behind the mountain *auberge* and looking up 1200 feet. From a distance they look something like the prongs of a pickle fork.

To begin with, the weather for weeks had been bad. Old peasants in the valley of Chamonix said the season was the worst in the memory of man. Many of the big climbs around Mont Blanc had not been done at all, and guides, who count on making sufficient money during the short season to live all winter, were in a state of despair. Some of them actually had abandoned their calling and could be seen digging potatoes in the rain or minding cows on the mountain side. At Zermatt, where guides stay *en pension* during the climbing season, the bad weather had proved so disastrous that many of them, it is said, did not make sufficient money to pay their hotel bills and had to be assisted financially to get back home. One afternoon, however, after

three weeks waiting, the weather prospects brightened, and hurriedly M. Haro, of Paris, and myself, with the guides, Jules Burnet and Emile Ducroz, of Chamonix, left for Plan Praz, a two-hours' climb above, determined to make the best of it. We decided, if it proved possible, to do the Clochetons because they had been climbed only once before, were attracting considerable attention from cragsmen, and never had been photographed. English crag climbers, I believe, would find here their paradise. We arrived at Plan Praz in time for dinner, and while our amiable host, in his kitchen, executed for us a ham omelette which was a veritable *chef d'œuvre*, Monsieur Haro and I studied the Clochetons with a telescope. The more one looked at close range the more interesting they became. As the whole chain of the Aiguilles Rouges has been ignored by map-makers, it is small wonder that these three granite needles have escaped particular attention. Once seen, however, they are not easily forgotten, and one might believe they were thrown up by Nature on purpose to lure alpinists. As I have stated before publicly these Aiguille Rouges, yet so little known, offer particular inducements to climbers. Being imperfectly explored there are still virgin pinnacles among them, and even those which have been climbed once may be done again in a variety of new ways. In the second place, one does not have to sleep out in dirty, uncomfortable cabins, for near the foot of the aiguilles is the Plan Praz Hotel, and further north the mountain *auberge* of the Flégère, where one may find excellent, simple food at reasonable prices, and a clean bed in which to sleep.

As most climbers go for pleasure and not for glory, it is comforting to think of leaving the hotel at four or five in the morning, instead of midnight, and returning to Chamonix in time for a bath and rest before dinner. From Plan Praz, which is already 6772 feet high, it is a climb of little more than one hour to the foot of the Clochetons.

THE START FOR THE NEEDLES

We had an excellent dinner, good wine and cigars, and turned in early to bed in order to be fresh for the next morning. In fact we were so comfortable and lazy that we did not get started until seven o'clock the next morning, and it was this unnecessary delay which later we had to pay for.

Carrying 400 feet of rope, nearly all of which was needed, we struck out for our crags, following for fifteen minutes the ordinary route which leads up to the Col du Brévent. Where the path doubles back again towards the summit of the Brévent Pass we left the foot-path, taking to the *couloir* on the right, which is filled with split boulders and tufts of grass. On some of the large rocks the Club Alpin Français have had painted red arrows which point the way, probably, to the Pointe des Vioz, or some other uninteresting place, and mistaking these arrows for the right direction we climbed to the top of the ridge to find ourselves deceived as to the route. Swearing in patois at the French Club, which is getting famous for such tricks, the guides turned on their steps, causing us to descend more than

500 feet in order to pass further to the right and towards the interesting Clocher de Plan Praz, so called for its likeness to a church spire, and which is considerably larger than the three Clochetons.

Again ascending to the summit of the ridge we crossed over and went down on the Diosaz side, following a snow ridge some hundreds of feet, so as to attack the Clochetons from the north side. Without roping we reached the base of the northernmost belfry and lunched lightly before beginning operations. The weather at this time was extremely doubtful, there being moments when we were completely enveloped in clouds, but as the sun kept reappearing at intervals we looked upon these drifting fog patches as summer mists.

The north Clocheton is quite the easiest of the three. Two-thirds of the way to the top it is fairly steep, but there are refts in the granite for both hands and feet, and for capable rock climbers thus far there is little danger. Near the top, however, is an ugly *rognon*, or protruding knob, which is extremely delicate to pass, the more so because there is scarcely anything to clutch on the granite wall; moreover, to pass one is forced outside on the Chamonix side over a perpendicular precipice. Burnet passed here first after every precaution had been taken to hold him with the rope in case he slipped. Even this was by no means easy to do, and had he slipped from his position above us, suddenly, at a moment when our attention was relaxed, the momentum might have jerked us all over into the void.

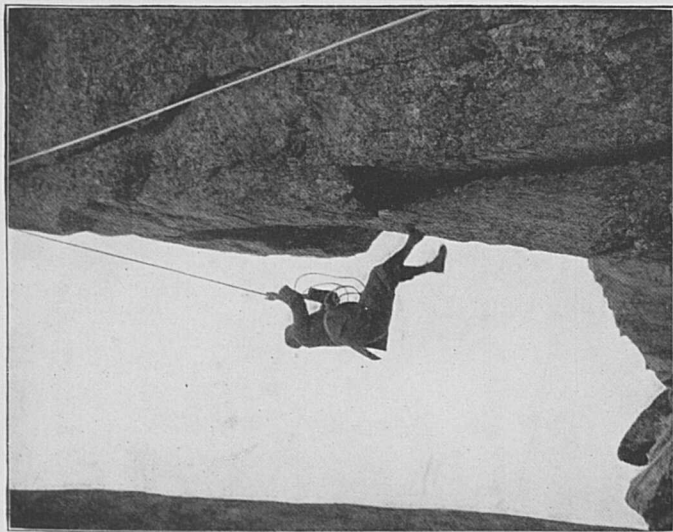
The summit of this north Clocheton is long and sharp, so cutting, in fact, that to sit on the edge for any length

of time would be painful. I went up thinking to remain there to photograph Haro while he climbed the central obelisk, but as this necessitated my remaining there immobile, exposed to an icy wind, for perhaps two hours, I decided to descend to try elsewhere. We descended Pinnacle No. 1, therefore, and passed outside on the Chamonix side around to a platform between the central obelisk and No. 3, which is sufficiently large and is sheltered. This passage around the foot of the northern pinnacle presents no difficulty, although the use of the rope is a wise precaution. Once having reached this platform, where one is overshadowed on three sides by perpendicular walls of granite fifty to sixty feet high, we began preparations for reaching the summits. Without the use of the cord climbing either No. 2 or No. 3 is utterly impossible.

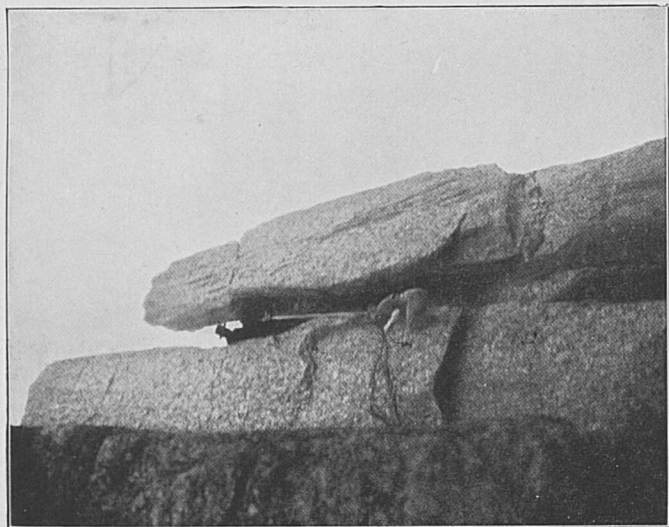
A NARROW ESCAPE

The work, consequently, was to get ropes over some protruding knobs. After several minutes of rope-throwing the guides apparently were successful in landing a rope on the third obelisk and getting hold of both ends. It seemed solid enough, and Haro said he was willing to risk it. As a precaution, however, both guides put their weight on it.

Without warning it began to give. There was a cry: "*Gare à la pierre!*" Scarcely had we got out from under when a giant slab which had pulled loose came crashing down to the very spot where we stood a moment before.



SCALING A PERPENDICULAR WALL
on the Clochetons de Plan Praz.



ASCENDING A CHIMNEY
which had never before been climbed.

"This will not do," said Burnet. "To get the ropes well over it will be necessary to reascend the northern pinnacle and, from the summit, throw ropes over the other two."

Haro and I remained in shelter while Burnet and Ducroz returned to the summit of No. 1 with a couple of hundred feet of rope. Throw it as they might the wind was so strong that it blew back again towards them, falling useless against the granite wall.

"Nom d'un chien!" "Sapristi!" and similar exclamations split the air at each failure. After several minutes of wasted effort a stone was tied to the end of the rope, but as this made ricochets threatening to crack our skulls the guides called for the heaviest rope, and after about forty minutes succeeded in getting lines over both the central obelisk and No. 3. Keeping the guides on No. 1, Haro climbed the first or northern Clocheton by the chimney, which is seen in the accompanying photographs, a feat accomplished for the first time. As Burnet and Ducroz afterwards were nearly frozen, having been in an exposed position for over an hour, they came down and scalded their fingers trying to drink tea direct from a Thermos bottle, which, as already suggested, is a godsend to alpinists.

The central Clocheton is higher than the other two and should not be attempted by amateurs who have not made their wills. To English or American rock climbers who are interested the route up the spire is from behind on the Diosaz side. To get to this vantage point one must pass between the central and third Clocheton, working around to a small saddle, or project-

ing ledge, where one is safe enough astride provided he does not move. With the aid of a rope thrown across a narrow ledge some twenty feet higher it is possible to reach this ledge without great difficulty. The climber, however, is alone and unseen, for the guides are on the opposite side of the pinnacle holding the end of the rope. Once on the ledge one may halt to get his breath. To reach the summit the same process is repeated, only this time with a different set of ropes thrown into place before the climb started. It was throwing these ropes in place, from the summit of No. 1, as has been explained before, that caused so much trouble. It goes without saying that only the best alpine rope should be used, and if one does not wish to take chances with his life it is a wise precaution to use reserve ropes serving the same purpose as the first. The ropes, moreover, should be thrown well over the ledges, otherwise they will have a tendency to swing the climber out over the precipice.

Clocheton No. 3 is purely acrobatic. It is considered impossible from every side except with the help of the rope. This must be thrown in coils across the summit by guides on pinnacle No. 1, so that the end will fall clear. Once this is done the guides descend from No. 1 and go to the south side of No. 3, pulling on the rope while the climber mounts the precipitous wall. Here again the guides and climber are hidden from each other. With an insufficient number in the party an accident here would be very awkward.

Haro had been already to the summit of Clocheton No. 3 and we were waiting for a fog bank to pass in

order to get some photographs showing the scaling of the perpendicular wall. It had been spitting snow intermittently for two hours and it was only by seizing the proper moment that there was any chance of getting an impression on the photographic plate.

WINDING SHEETS OF MIST

This time the mists were very tenacious, and while Haro stood roped awaiting the signal, and I, with my camera ready, remained perched on a knob of rock above a precipice, the snow, like hard white rice, came pelting down, stinging our hands and face. On one side of the ridge where we were the mountain descended in a series of precipices towards the valley of the Diosaz, now hidden by the clouds, while to the south below was the valley of Chamonix like a giant cauldron full of flying vapours. About a hundred feet below us, at the foot of the crags, Burnet and Ducroz, still holding the rope, had crawled in under a rock to escape the icy wind.

"What are you doing up there?" shouted Burnet through the vapour.

"Waiting for a rift in the clouds!" replied Haro gaily.

"Well, you had better watch out," grumbled Burnet, who was growing uneasy. "This is no place to be caught by bad weather."

On the protruding rock where I was perched I could see Haro to the right trying to warm his hands by blowing on them his hot breath, and looking below I saw mysterious movements under the rock and divined that

the guides, half frozen, were warming themselves with the cognac bottle.

Suddenly the shrouds of impenetrable grey mist on the Diosaz side began to darken measurably. The giant Clocher de Plan Praz, 200 yards away, faded away in the pall of gloom, and the snow, instead of taking the shape of rice, began falling in myriads of feathered flakes. The moaning of the wind among the crags foreboded evil, and by carelessness our little party found itself caught, one and a half miles high with steep slopes on every side, unwilling witnesses to this fierce battle of the elements. Burnet and Ducroz, like marmots, crawled out of their cave, and, instinctively, all of us prepared quickly to descend.

“C’est la tourmente!” shouted Burnet. “There is no time to lose! This is a very great imprudence!”

Haro laughed.

“You can smile, Monsieur Haro,” said the guide, “but perhaps you do not realize what it is to get caught by the tempest in a place like this. It is a long way down—”

The rest of the sentence was blurred in the whistling wind, the words being carried off by the gale in another direction. What I caught was “Danger—snow in steep grass *couloirs*—more slippery than ice.” All we could see through the flying mist was ourselves, rock walls and precipices. In two minutes we had fastened our rucksacks, attached ourselves with the rope, and with the ice-axes began the descent. Part of our rope already was frozen, but using the dry reserve rope as a *corde de rappel*—that is to say doubling it and re-using it re-

peatedly by pulling in the ends every few yards—we soon lost sight of the Clochetons in the gloom. To save time we were trying a descent in an unknown gully and suddenly reached a point where nothing solid could be found behind which to slide our recall rope. Failing anything else Burnet ran the rope behind a rock which was loose, and it required considerable care not to slip and pull the loose mass down on our heads.

“Don’t pull on the rope here, it’s loose!” called Burnet. “Just use it cautiously to steady yourself.”

Once back on the Diosaz side I hazarded that, in order to escape the steep slippery *coulloirs* on the Chamonix side, a descent might be effected on the Diosaz side, at least far enough to reach the mule-path stretching towards the Col d’Anterne.

“It is a good place to get killed,” was the reply.

As I rarely climb anywhere without studying at the same time the various retreats, I felt convinced that if we were in danger, as we were said to be, that this was the way out. I had proof of this ten days later when, foolishly perhaps, I returned to this spot alone in order to photograph the Clochetons and, *sapristi!* I again got caught in a blizzard. I determined then to hazard a descent on the Diosaz side. It was snowing hard and owing to the dense mists I could see the bottom of none of the steep gullies. Down I went, and for ten minutes all went well, when suddenly the *coulloir* became precipitous. The angle was impossible. I was going down alone, without rope, face outwards, when all at once there was nothing below but mist. Two steps more and I would have been over the brink. It was indeed, as the

guides had said, a good place to get killed, and it is in just such places that fatal accidents happen each year.

In the thick mist I had mistaken the gully, and, taking every precaution against slipping, I fought my way back up again. Trying again nearer the foot of the Clocher de Plan Praz, I soon found the gully I was looking for, and although it is steep enough, forcing one to pay continuous close attention, it presented little or no real danger. I easily got down to the path leading towards the Col d'Anterne, and, taking the opposite direction, arrived in due time on the summit of the Col du Brévent and descended leisurely in a raging snow-storm to Plan Praz. Undoubtedly this route is longer than a direct descent on the Chamonix side of the Clochetons, but in case of very bad weather this other exit is well to know.

Returning to our party, however, the guides preferred descending on the Chamonix side. It was intensely cold for August, the lichen being ice-coated and the rocks covered with granulated hoar frost. The wind was terrific, the snow arriving in squalls. The projecting, looming pinnacles, as we left the ridge, seemed to lean over in the mist. Looking below, we could see our way for a few steps only, and then all was confused and lost in the clouds.

We had unroped on leaving the backbone of the mountain, and as much of the rope was frozen, it was decided to lose no time in readjusting it, but to leave each one to be guided entirely by his own instincts of self-preservation. The gully was full of loose shale and grass, which, when snow-covered, to some minds, is more

slippery than ice, for on ice-slopes an alpinist at least may cut steps.

"Don't take any chances," said Burnet. "See whether your ice-axe will hold before moving." We did this by driving the point firmly in the ground and testing it before taking each step. Holding the handle the ice-axe served as an anchor. In case one's feet slipped out from under him he could save himself by clinging to his ice-axe.

What made Ducroz look back is unimaginable, but he did so just in time to see several stones bouncing down upon us with tremendous velocity. Ducroz and Haro sheltered themselves behind some protruding rocks. Being exposed I simply watched fascinated the oncoming stones, ready to dodge to the right or left as best I could. They shot past without harm, fortunately, one passing singing a few inches over Burnet's head.

"This is not very amusing," said the guide, yet the thought of the mountain having so little respect for our sensibilities made us laugh, nevertheless.

We were exposed probably an hour or more in this steep *couloir* where one false step might have been fatal. Yet no one fell, although more than once footholds gave way and one's life depended on his ice-axe. Late in the evening Plan Praz became visible and we stopped in relief to catch a breath.

"Nom d'un chien!" said Burnet, swearing mildly. "This is the last time I expect to get caught out in a snowstorm. What do you think a man's wife thinks when she knows he is out in a tempest like this?"

When we reached the Plan Praz Hotel the proprietor

came out to meet us saying that he had been uneasy and was thinking of organizing a search-party.

Before a bright, warm log-fire and something hot to drink, however, life soon retook its roseate hue, and besides having our fingers frost-nipped we were none the worse for the adventure.

Among the Red Needles

XIII

AMONG THE RED NEEDLES

A NEW ALPINE CENTRE

STRANGE as it may seem, there is in the heart of the Haute Savoie in France a whole range of mountains as yet practically uncharted. Towering to almost 10,000 feet, with glaciers and perpetual snow, this haunt of chamois has yet to be properly introduced to the world. The range lies on the north side of the valley of Chamonix, between Mont Blanc and the Lake of Geneva, and while the peaks may not quite lend themselves to the alpinist who wishes to cling to the granite by his finger-tips, or cut steps into ice-slopes leading down to perdition, yet it is an ideal alpine excursion centre which leaves one filled with delicious memories.

So many alpine stories deal with the hardships and alluring dangers of the great peaks like the Aiguille Verte, the Grépon, or the Dent du Géant, that the charming Aiguilles Rouges—so called by reason of the reddish tinge of the soil—have been passed by almost unnoticed. Guides looking for big fees have advertised the dangerous summits, treating the others with disdain. Yet there are climbers, and many of them, whom nothing would please more than to spend a gorgeous day among these crags where one still may find

plenty of steep snow, excitement and exhilaration in the rock, and a panorama of unsurpassed splendour.

There are two places, for instance, to see Mont Blanc and its aiguilles to the greatest advantage: one is on Mont Buet, which is uncomfortable to reach and monotonous to ascend; the second is the Belvédère, 2966 metres, the highest summit in the Aiguilles Rouges, and a climb of considerable interest. It should not be inferred that the Red Needles are playthings. Had they been situated anywhere else but in close proximity to Mont Blanc they would have attracted considerable attention from mountaineering enthusiasts. Some of the aiguilles are very steep and scraggy, and mountains just under 10,000 feet with perpetual snow and glaciers should always be treated with respect. They have attracted, too, some of the most eminent climbers, such as M. Emile Fontaine, M. Vallot, Director of the Observatory on Mont Blanc, and Count O'Gorman and M. Laugel. In crossing the Belvédère, for instance, there are one or two rather ticklish passages in the rock after leaving the Glacier Blanc, as the guides call it, and on the Mont Buet side one or two ledges to which one must jump, with some steep ice to cross. For active men or women with steady heads the Belvédère, however, offers no serious difficulty, and is an ideal *ballade*, as the French say.

Climbing in the Aiguilles Rouges offers several advantages. One may leave Chamonix comfortably in the afternoon, climb slowly to the Flégère, where one may have a better room and a better-cooked dinner than in almost any of the high alpine hotels. Instead

of trying to sleep in a crowded hut and leaving for the ascent at one or two o'clock in the morning, as is so often the case elsewhere, one may delay the departure from the Flégère until nearly four o'clock, lunch leisurely at an early hour on the summit, returning to Chamonix in the afternoon for a bath and rest before dinner. In spite of the cheaper pay—35 francs—guides like this excursion, especially during the rush season, for they not only eat well, have to carry very few provisions, but—what is all-important to them—get one good night's sleep.

Curious as it may seem, there is no correct and complete map of this region. The official French Government chart may be discarded as useless, as it has confused several of the peaks one with the other. For instance, this attempt at a map gives the Aiguille de la Glière 2966 metres, evidently mistaking it for the Belvédère, the highest point in the Aiguilles Rouges, which it does not even mention. Baedeker gives the Belvédère 2966 metres, which is the same altitude just mentioned for the Glière. As to the Aiguille de la Floriaz, the Government gives it 2958 metres, the guide Joanne 2953 metres, and Baedeker 2888 metres; the latter probably being correct.

The guide Joanne does not speak of the Belvédère, and none of them mentions among others La Chapel, l'Arête Plate, Le Pouce, Le Clocher de Plan Praz, the Persévérance, des Chamois or the Trois Torrents. Alpine guides such as Whymper's practically ignore the range altogether. By combining the maps, and with the addition made by reputed Chamonix guides, one arrives at the following order, subject naturally to

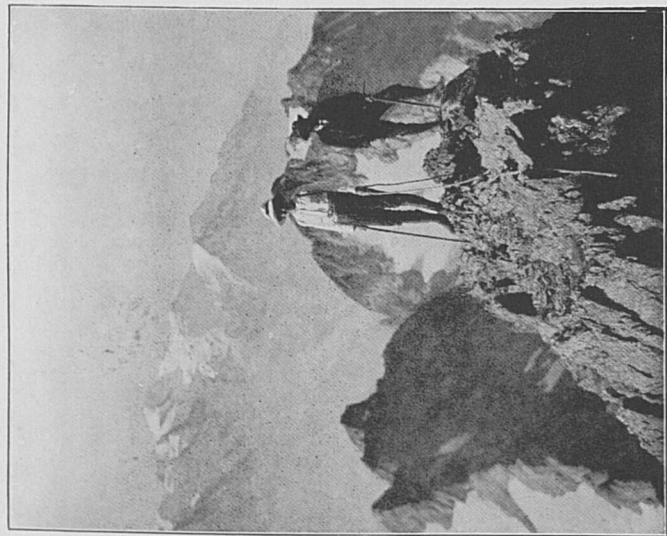
corrections, of the Aiguilles Rouges, reading from south to north:—

			Metres.	Feet.
L'Aiguillette (les Houches)	-	-	2314	7592
Brévent	-	-	2525	8284
Pointe des Vioz	-	-	2461	8071
Le Clocher de Plan Praz	-	-	?	?
Les Clochetons de Plan Praz	-	-	?	?
Aiguille de Charlonoz	-	-	2550	8366
Aiguille Pourrie	-	-	2562	8406
Le Pouce	-	-	?	?
L'Index	-	-	?	?
Aiguille de la Glière	-	-	2836	9305
La Chapel	-	-	?	?
Aiguille de la Floriaz	-	-	2888	9475
Aiguille Crochues	-	-	2840	9318
Le Belvédère	-	-	2966	9731
Aiguille de l'Arête Plate	-	-	2944	9659
Aiguille des Chamois	-	-	2902	9521
Persévérance	-	-	2899	9512
Aiguille Martin	-	-	2883	9459
Aiguille des Trois Torrents	-	-	2887	9472
Aiguille Rouge Orientale	-	-	2845	9334
L'Aiguillette (Argentièrre)	-	-	?	?

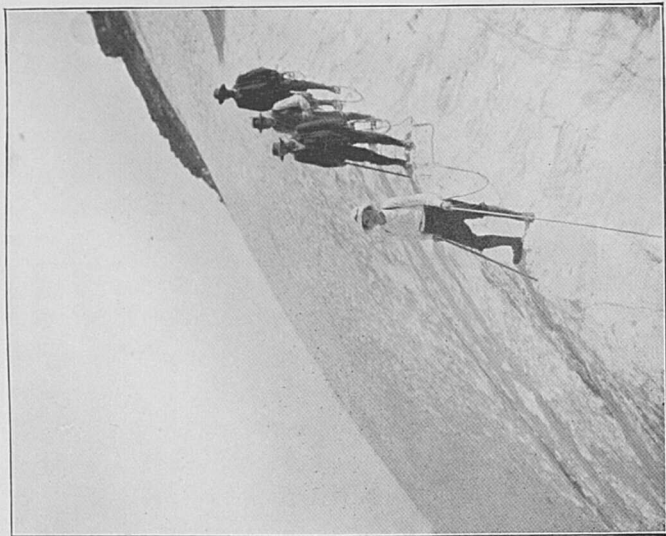
A correct map of this range would be interesting. It requires no chart to go there, however, as several of the Chamonix guides are well acquainted with the Red Needles, and as they offer particular inducements to photographers, our small climbing party decided to cross the range at its highest point.

In our caravan were M. Laugel, Mme. Léontine Richard (now my wife), myself, the guide Jules Burnet, and Emile Ducroz, porter. The rendezvous was made for the Flégère, 5925 feet, two hours' walking above Chamonix, where there is a very good mountain hotel.

M. Laugel went up in the morning in order to escape



MADAME LÉONTINE RICHARD
on the backbone of the Belvédère among the Red Needles.



CROSSING SNOWFIELD
which leads down to the Vallée de Bérard.

the afternoon sun, Mme. Richard and I arrived just before dinner. We had time to wash and leisurely examine Mont Blanc with a telescope on the premises before being called in for dinner, which was excellent. I mention this as an important point, for I climb for the pleasure there is in it, and if one has a comfortable dinner, a good bottle of wine and a cigar afterwards, and a good night's rest in the cold, bracing air, one may start the next morning under auspicious circumstances. The night was moonlit, and as we finished dining the slanting silver beams were superseding on Mont Blanc the pink alpine glow of the dying day. In the Chamonix Valley, 2500 feet below, we could see the lights of the village, and with the telescope watch the people pouring out of the hotels for their evening promenade through the streets.

Across the valley and beyond the Glacier des Bossons one could faintly make out the light at the Châlet des Pyramids, and nearer the gleam at Pierre Pointue, Plan des Aiguilles, and Montanvert. The well-lit electric trains below, with their twin headlights, looked strangely like glow-worms crawling through the increasing gloom. It was indeed a fairy scene. Just across the valley was the Mer-de-Glace and the Grandes Jorasses; further to the left towered the Drus, the Aiguille Verte, the Chardonnet and the Aiguille d'Argentière, frigid and desolate in the cold, silver sheen.

Burnet and Ducroz both joined us in excellent humour after their dinner, saying with feeling, "C'est beau, c'est très beau!" Behind where our aiguilles were, however, there was a mackerel sky with an occasional big fish, and as the wind was too much in the east instead

of being north, the weather was not any too certain. But no one felt like borrowing trouble, and we all turned in about nine o'clock as contented as mortals could be.

About three o'clock the hotel-keeper knocked at our doors, and we, carrying our heavily-nailed boots in our hands so as to make as little noise as possible on the stairs, descended by candle-light to the dining-room. The coffee was boiling hot, for which we were grateful, as it was freezing cold at this altitude, and the bread and honey never tasted better. Burnet came to say that the weather prospect was not as good as it might be for photography, but that he did not expect bad weather, at least during the morning. As I was anxious to get a clear photograph, with detail of Mont Blanc, we decided to lose no time, but as the light came the sky got "streaky," and for a time it looked as if we would fail altogether with the photographs.

The stars were still shining when we left the hotel. Both Burnet and Ducroz carried mountain lanterns, and we struck out rapidly in the direction of the Lac Blanc—a beautiful little sheet of greyish blue water about two hours from the hotel—where ordinary tourists may go easily without guides. It is fed by melting snow and ice, and, as its banks are littered with big flat rocks, it is an ideal spot for picnicking. The view from there is superb.

Dawn was breaking when we reached here, and after folding up the lanterns and placing them in the sacks we struck out in zigzags to the left, climbing up to where we could comfortably cross the Glacier Blanc. Just before going on the snow and ice we stopped for

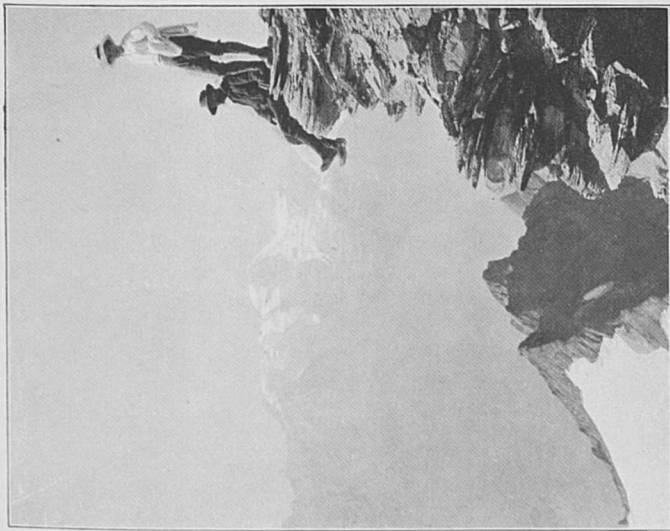
our second breakfast, which was to carry us to the summit of the Belvédère. Here we took our time, for it was yet early in the morning, there being scarcely enough light to photograph the glacier. It was very little crevassed, and although the surface was still frozen tight and there was some *verglas*, it was easy walking.

We decided to do the Belvédère by the *arête* or ridge leading up from the glacier. Here one, by following closely the *arête*, may find climbing sufficiently "interesting" to suit almost anyone's taste. There are some amusing precipices on both sides, and a few "gendarmes," or stone sentinels, which block the way. After leaving the glacier, therefore, and before taking to the rock, we considered it safer to use the rope, and divided into two sections, M. Laugel going with Burnet and Mme. Richard and Ducroz with me. The delightful part of it was we did not feel hurried. There was no danger of avalanches, no loose stones dropping due to the sun melting their ice supports, no crevasses to pass in the darkness, but only an endless change of lights and shadows and a glorious panorama. From across the Chamonix Valley occasionally came the roar of an avalanche; but this was a long way off and emphasized the serenity of the scene about us. Now and then some *corneilles*, disturbed by our approach, filled the air with cawing, and once Ducroz called our attention to some *chamois* making for Le Pouce. These animals can make it very uncomfortable by sending down showers of stones from above, but we saw none at all this day on the Belvédère.

Alpinists may ask what is the use of wasting time where there is no danger of being killed? I quite understand, too, this point of view. But I was thinking for the moment of Ruskin, who used to sit for hours down in the Chamonix Valley on a stone which now bears his name, and this great artist got something out of the Alps which many alpinists fail for ever to see. The scene before us from this ridge was too big to describe. It could not be condensed into the narrow confines of thought, but remained indefinite, emotional, infinite. It would require a great poet to translate a small portion of it into language, and yet the humblest mortal may feel here what it is impossible for him to express. This is why the Red Needles are worth climbing.

To the extreme right one could see Mont Blanc with its terrible buttresses—the Aiguille de Bionnassay, the Aiguille du Goûter, the Dôme du Goûter, the Mont Blanc de Tacul, and Mont Maudit. Turning to the left one distinguished the Aiguille du Midi, the Aiguille du Plan, the Blaitière, the Grépon, and the Charmoz. Directly across the valley was the Mer-de-Glace leading up to the Pic du Tacul and the Grandes Jorasses; on the left of the Mer-de-Glace was the Grand and Petit Drus and the Aiguille Verte.

Still further to the left was the Glacier d'Argentière, with the famous aiguille of that name, and the Aiguille du Chardonnet, and to the left of the broad Glacier du Tour the Aiguille de Tour. Ahead were the Red Needles, and behind Mont Buet. If earthquakes produce such grandeur as this, then they are benefactors to the human race; and even if Nature appears brutal



MADAME LÉONTINE RICHARD
and the Guide, Emile Ducroz, on the summit of
the Belvédère.



AT THE STEINMANN ON THE BELVÉDÈRE,
the highest point among the Red Needles.

to individuals who get in her way, the result of her handiwork to mankind is admirable.

We had not been climbing long on the ridge before the gendarmes made further progress in this direction impossible. One cannot scale smooth, perpendicular granite, so we veered a little to the left and took to the face of the mountain. Considerable caution, too, was required in getting away from the ridge, for we were forced to pass over a narrow ledge which was guarded by overhanging rock. Directly below us was a precipice overhanging the beautiful valley of Diosaz, which abyss looked all the uglier for being in deep shadow. We moved one at a time, as a precaution against accident, and passed on to the face of the mountain without further incident. Here climbing was fairly steep, and to avoid sending down stones on each other—there are a great many on the Belvédère—M. Laugel and Burnet climbed considerably to the left of us and our caravan went up obliquely, so that if the first or second on the rope started a *dégringolade* the stones would fall clear. It was a wise precaution, as several times stones were set in motion and fell bounding and singing into the abyss below. After about a half-hour's fast climbing the face of the mountain became less steep and we scrambled up to the summit of the Belvédère, a comfortable plateau, and, unroping, got ready for lunch and a short siesta.

As we had decided in doing the *traversée* of the Belvédère we again adjusted the rope, and, crossing the long level ridge leading in the direction of the Buet, began the descent. We had not gone far down when the ridge apparently stopped abruptly. Directly below

where we stood was a narrow ledge on the edge of a second precipice. The danger of jumping for the ledge was that if one missed his footing and slipped one might have gone over into the abyss.

Our caravan was descending first and I was first on the rope in order to allow Ducroz to hold up Mme. Richard in case she slipped. The passage was interesting rather than difficult, and had we looked around we might have found an easier way; but we decided to continue, and, as Ducroz payed out the cord for me, I descended to the ledge and passed a little to the left to allow Mme. Richard to descend. M. Laugel and Burnet let down Ducroz and then a curious manœuvre happened. While M. Laugel's feet were dangling in mid-air, Ducroz, still standing on the narrow ledge, caught hold of them, and placing them firmly on his shoulders, descended himself, like a human lift, or telescope shutting up, so that when Ducroz flattened himself out at the ledge M. Laugel stepped off his shoulders as he would step out of a cab. It worked so well, in spite of looking so ridiculous, that Burnet, the last to descend, was invited to come down the same way. Instead of running the rope behind some rock even as a precaution and letting himself down, Burnet, therefore, descended as far as possible, then hung with his hands and dropped on Ducroz's shoulders. Burnet is one of the biggest guides in the Alps, but Ducroz held him and telescoped him to earth.

When I think of that narrow ledge and precipice beneath, and see Burnet, without the precaution of using a rope, descending as he did, I wonder once more at the

self-confidence, agility and rare judgment of an alpine guide. Burnet, who is one of the safest of the Chamonix guides, would never have allowed his "tourist," for whom he is responsible, to take such a chance; but it amused both Burnet and Ducroz to try something new.

By passing to the left along the ledge we again found it easy going, when all at once our way was barred by a tongue of smooth, steep ice. A few feet above the passage was impossible, and the tongue of ice growing larger as it went down finally became indistinguishable with the glacier far below. We were considerably below the *arête*, so it was either a question of climbing back up to the ridge and looking for another passage or crossing the steep ice.

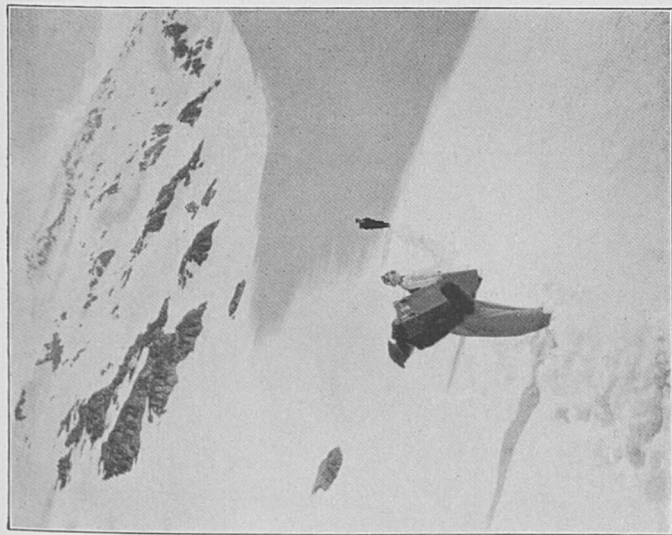
We decided, naturally, to cross the ice gully, and while I payed out the rope Ducroz went out and cut steps. The splinters of ice set loose by his axe went hissing at terrible speed down and down until lost to view for ever. When he got through, crossing was like walking upstairs, that is, so far as safety goes; but it was vertiginous just the same.

The descent from here was over a slope of loose rock and for some minutes rather disagreeable walking, and as we approached the Glacier de Bérard, or whatever the glacier beneath us is generally called, the route became steeper. I was descending first, and as there were so many loose stones in the way I began systematically to send them down.

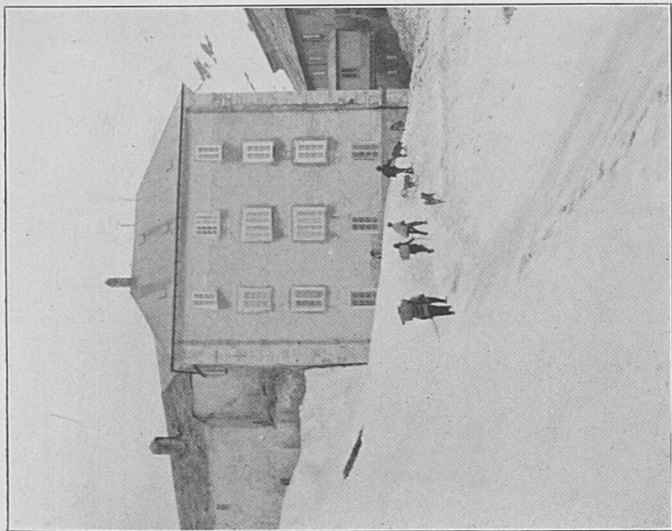
First Mme. Richard thought I had slipped, which made her a little nervous, and when the sound of falling stones became like a cannonade M. Laugel called out to

know whether I was trying to tear down the mountain. I told him that it was preferable, as no caravan was below us, that I should send down the loose stones and clear the way than leave them for him to send down from above on our heads. We were soon on the snow-covered glacier, however, and the Belvédère was crossed. Unroping, we began making glissades over the snow, leaning on our ice-axes while our heels ploughed over the frozen surface. In a few moments the descending ridge was left far behind, and below us to the left we could see the Pierre à Bérard, on the route to Mont Buet, and still further below a beautiful stream of water and green pastures filled with milch cows. Within another twenty minutes we were down in the valley, leaving the ice-sloped Red Needles behind to the right, walking beside a plunging mountain stream and cascades to Vallorcine, where we took the electric railway back to Chamonix, charmed with our excursion, and with only one or two small holes in our trousers.

The Grand St Bernard Hospice



IN THE VALLEY OF THE DEAD.



CARAVAN ARRIVING AT THE GRAND ST. BERNARD
HOSPICE.

XIV

THE GRAND ST BERNARD HOSPICE

MENACED WITH COMMERCIALISM

IN one of the wildest and most desolate spots in the Alps, 8110 feet above the sea, exists a bonanza where one may still get something for nothing. This unique institution is the Hospice of the Grand St Bernard.

The passing traveller is received here with hospitality as generous as it is disinterested; no charge whatever is made for either food or lodging, and the only request is that the key be left in the chamber door on parting.

Only recently the newspapers announced still another rescue, when an Englishman named Davidson missed his way, slipped, and was discovered hours later in a frightful state by the dogs. The traveller was cared for at the hospice and later sent by the monks to the Martigny Infirmary.

Like all virtue, however, the unselfish and generous hospitality of the Augustinian friars is ill-rewarded. Throughout ten centuries this Early Christian spirit has been kept pure, and in their devotion to a noble aim these strange monks have remained free from the pollution of filthy lucre. Times have changed, however, even if the monks have not, and rumours are abroad that the Grand St Bernard Hospice is on the brink of com-

mercialism. Tourists, looking for free meals, may force the monks to buy a cash register.

For several years past over 20,000 tourists annually have visited the hospice. Many of these sleep there and eat two or three meals. Instead of leaving behind in the chapel offering-box at least enough to pay for their food, without profit, the total contributions of this modern horde of sightseers is scarcely enough to feed one thousand of the twenty. They slink off, conscience pricked maybe for an instant, to soon forget their delinquencies in a whirl of sight-seeing elsewhere. What a sad commentary on human nature!

I asked a priest recently whether or not it might be necessary to modify this hospitality. "Not yet!" he replied simply.

Food does not grow in the snow but has to be carried up at considerable expense from the Italian valleys below, and when a tourist does not pay someone else must.

"You know I think I will go up and spend a week at the hospice; it does not cost anything," said a woman to me at Lake Champex, a delightful resort above Orsières.

She was taken aback when I told her the place was only a halt on the Alpine Pass from Italy to Switzerland—and was open *for one night only* to benighted strangers.

"How unfortunate!"

While at the hospice on a late occasion some tourists arrived in the afternoon.

"Ring for some tea, Lucien!!!"

When told that the Grand St Bernard Hospice was

not a tea-shop, they wanted to know what the place was run for anyway.

The monks have got used to this class of tourist, and after having greeted them and seen to their immediate comfort they disappear behind iron gratings and the meals are served by domestics.

For those who wish to get a glimpse of how life might have been far back in the past, a visit to this strange place is well worth while. Visitors travelling from the north to Italy can break their journey by stopping at Martigny, in the Rhone Valley, and in midsummer visit the hospice by diligence, for there is a good carriage road when the snow melts.

There is an electric line as far as Orsières, but it is advisable to sleep at Martigny, taking the first train in the morning, for the generous spirit of the St Bernard monks apparently has not affected the Orsières hotel-keepers. From Orsières one may take the mail diligence, which is extremely cheap, or else proceed on foot, sending the luggage forward by post. The parcel post system in Switzerland is so superior to that in America, England or France that any comparison would be odious.

When I left for the St Bernard there was still much snow. As my intention was to cinematograph the life at the hospice for the British and Colonial Kinematograph of London, I deliberately sought the early season, thus escaping the tourist hordes. From Bourg-St-Pierre, where Napoleon stopped during his Italian campaign, on to the Canteen de Proz on the Swiss side, the last sign of habitation, snow gradually became more

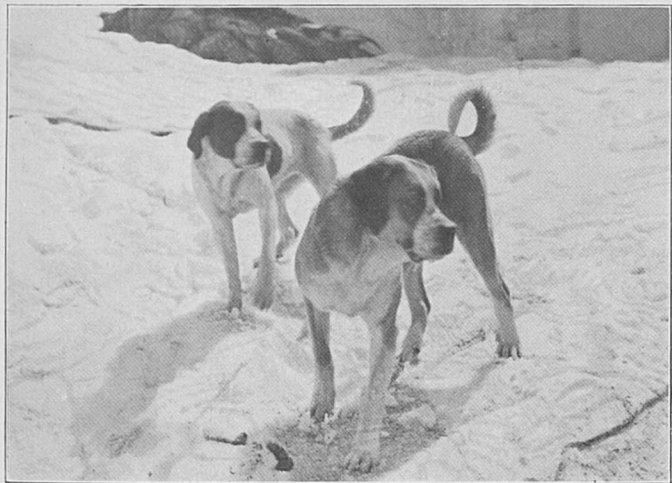
plentiful. After here the road frequently was hidden. Being informed as to the dangerous condition of some of the snow bridges higher up, I telephoned to the hospice that we might be expected before nightfall. The ascent was tedious, as we had 150 lbs. of baggage, including cinema, and only two volunteer Italian porters.

Desolation of desolations describes the vale leading up towards the Grand St Bernard. Grim mountains, snow and ice greeted one on every side. Occasionally there was the shrill cry of a marmot running over the snow, and now and then a corneille soared above; but all else was as still as death.

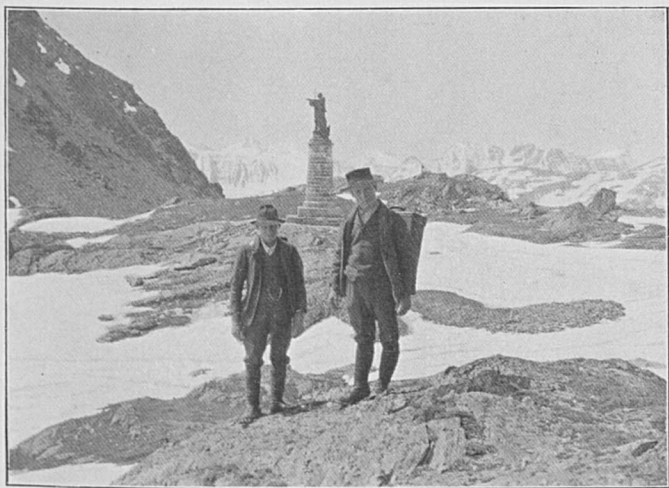
The exquisite highly-coloured wild flowers found in profusion below were here hidden under a deep mantle of white. All traces of the road disappeared. We ignored its spirals and climbed directly up the valley, the alpine torrent not infrequently being hidden directly under our feet.

Now and then, where snow bridges had caved in, the fierce torrent was seen at the bottom of the chasm. Turning away from this impressive sight and looking up the Valley of the Dead one was startled to see against the sky-line a bold sign of the Cross. It was so unexpected.

One of my Italian porters who knew the way said we were scarcely half an hour distant from our destination. To the right, buried in the snow, was the morgue, where skeletons of those lost and found stiff in the Valley of the Dead were hung up with ropes. The dead of the St Bernard are not buried. It is cold enough to leave them hanging gruesome in the air.



CURIOSITY OF ST. BERNARD DOGS.



STATUE OF ST. BERNARD ON THE SWISS-ITALIAN FRONTIER.

Suddenly there came across the snow from the direction of the Cross the sound of the deep barking of the dogs. These animals have a wonderful sense of smell, and apparently our odour had reached them, distant as we were. In order that the reader may draw no unfavourable conclusion, I might add that I had a bath at Montreux just before leaving for the hospice, so it is likely that my two Italian porters started this furious barking. In case of doing the St Bernard in bad weather, it is a wise precaution to take Italian porters, or, better still, some Valaisian peasants, as many of these have never had a bath.

What aroused my curiosity instantly were the feet of these dogs, which, following Darwin's law of adaptation, were spread out like snow-shoes to keep them from sinking in the snow. At this altitude the dogs, in spite of their enormous size, were extremely agile and playful, but if taken to the valleys below they die very soon. Only very young pups survive this change of environment.

Following the dogs, which slid down the snow towards us as if on skis, came one of the St Bernard scouts with a leather flask of wine. And what wine it was! Not the commercial, drugged, adulterated stuff sold nowadays! It came from the friars' own vineyard in Italy.

Passing the Cross, we pushed onward towards the massive stone hospice buildings now in plain view. At our approach the barking of our accompanying dogs started all the others, until the mountain fairly echoed and there could be no mistake as to where we were.

Once in the hallway the scout rang a large bell, and, almost immediately, one of the fifteen Augustinian friars who live there, the *Père l'Aumonier*, came to welcome us and show us our rooms. He inquired politely concerning our upward voyage, brought us some warm felt slippers, told us supper would be served at six, and then disappeared behind some chained iron gratings which separate the monks' habitations from those prepared for the public. That night, outside, the wind moaned and screeched.

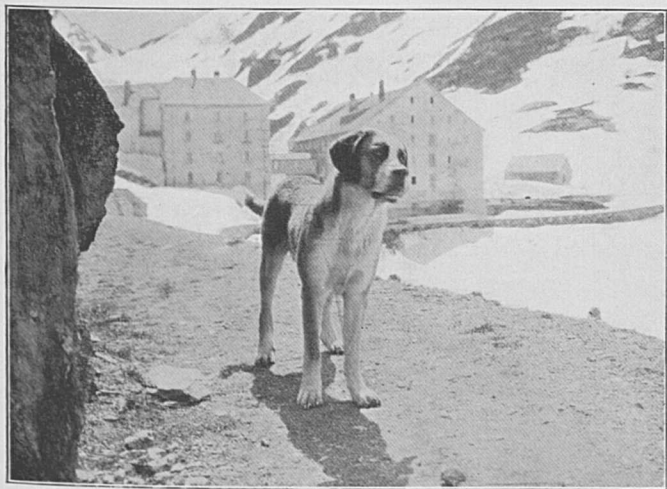
It is a strange life this of those Augustinian monks. Sixteen years of their lives are spent in this desolate spot, that is if their health does not break under the strain, sixteen years of continuous study and in the service of mankind. Here one sees Christianity in all its simplicity as it was ten centuries ago. What a contrast to the gilded specimen which passes for Christianity nowadays!

Being great alpinists, the monks render signal service to hundreds of poor folks who cross the Alpine Pass on foot, peddling, looking for work, or retreating homeward without money or friends. Throughout the winter, scouts, with dogs, are continually on the lookout, and no one knows, consequently, how many lives have been saved. For ten centuries this disinterested and alert service to mankind has continued, in return for which the only request is that in leaving the wayfarer leave the key in the door. On departing one sees nobody unless the service of a scout is asked for to point out the way.

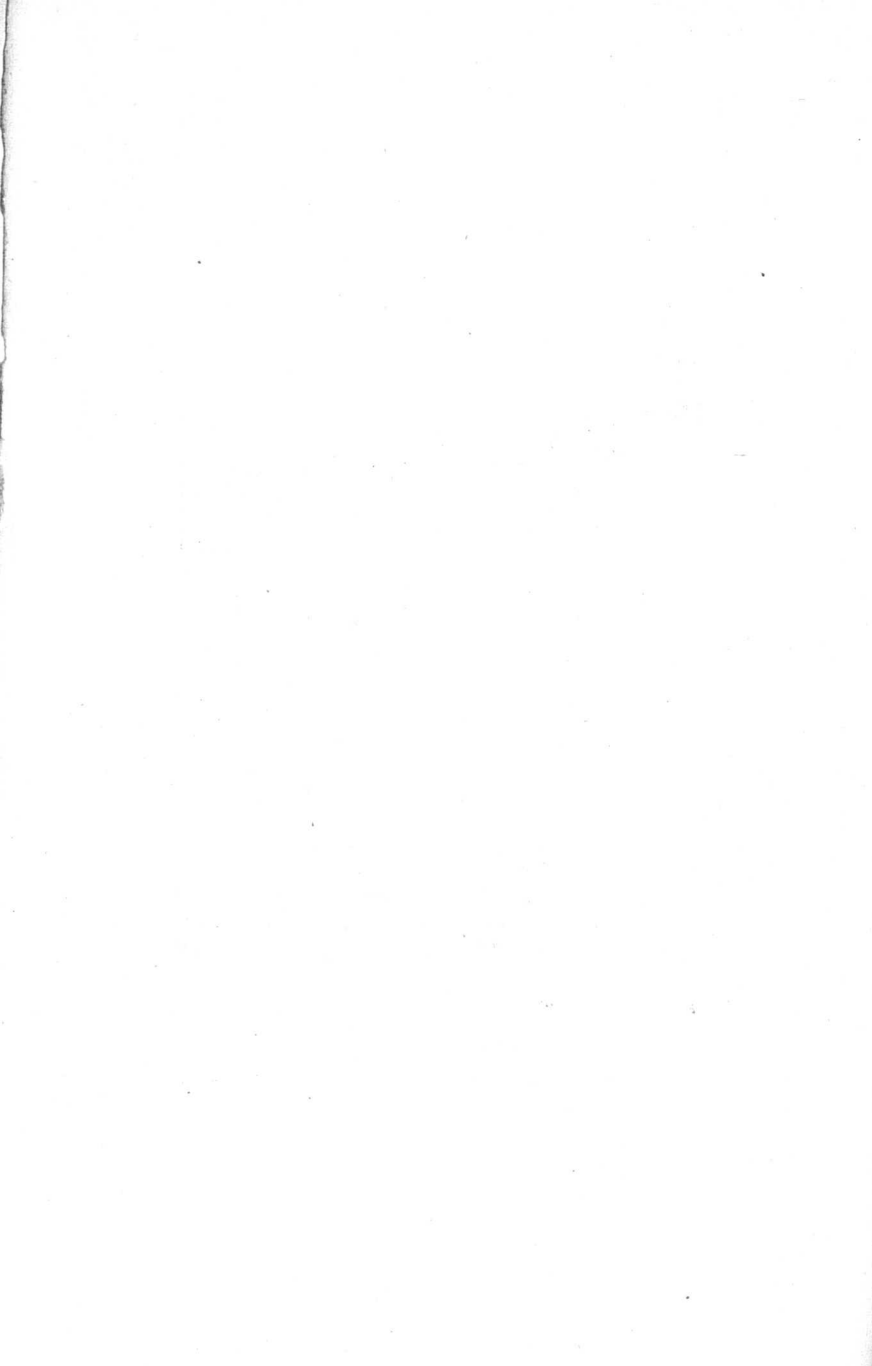
One may say the monks would do better to mingle



ST. BERNARD MONKS,
who are great Alpinists, taking daily exercise with the dogs.



“DOES SOME ONE WISH TO BE RESCUED?”



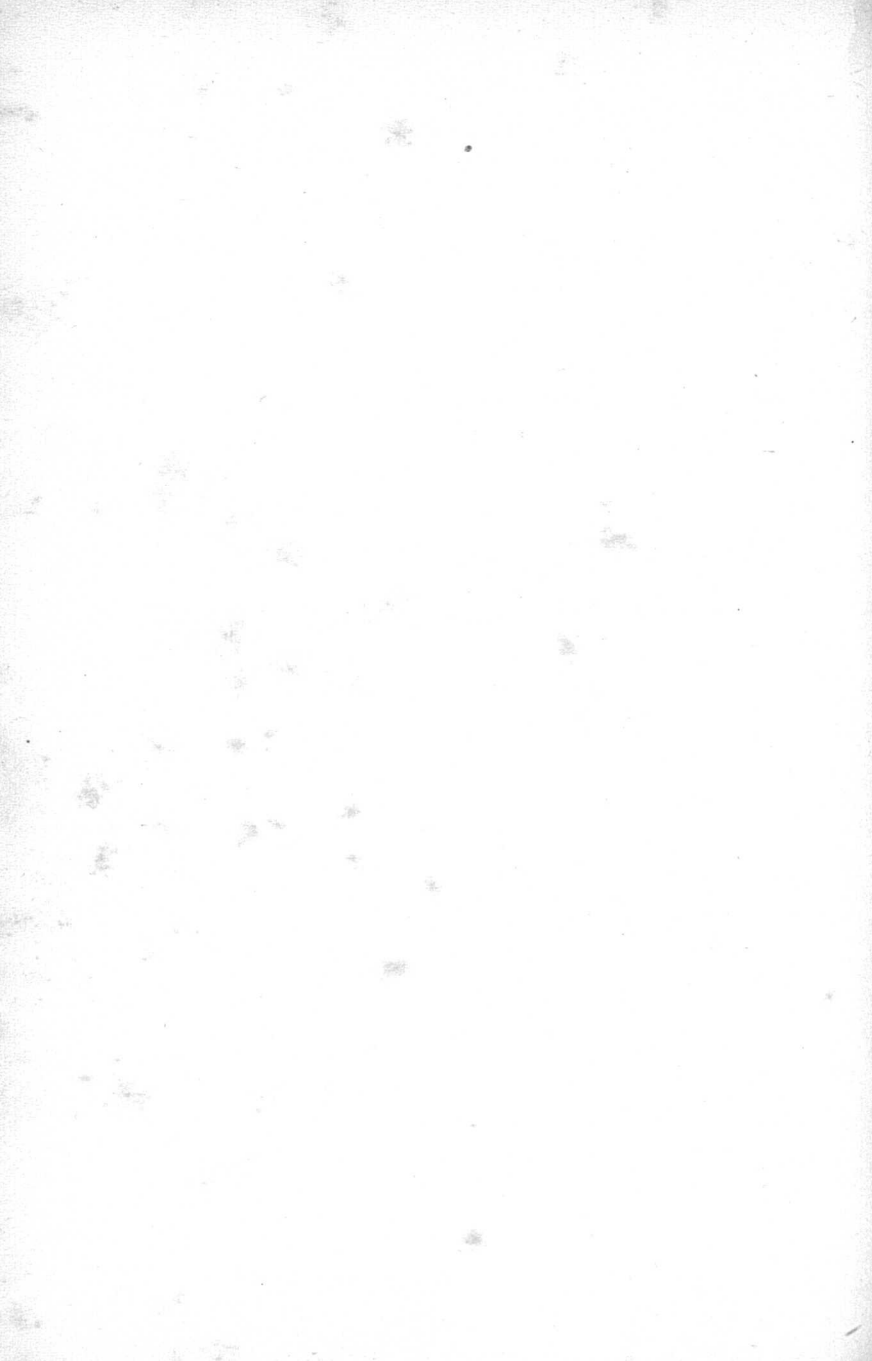
with the world, convert the heathen, beg money for more churches, stop cinematograph shows on Sunday and look after other people's morals!

At the Grand St Bernard Hospice, however, there are no tracts, no bulletins announcing services, no interference.

Only the ideal of public service is uplifted, burns as it has burned brightly throughout the ages, the monks steadfast to their faith and their vows. As dawn breaks they may be heard singing in the chapel.

Is all this, therefore, to be swamped by 25,000 tourists who arrive each year and who sleep and eat at the monks' expense?

Cinematographing Mont Blanc
under Difficulties



XV

CINEMATOGRAPHING MONT BLANC UNDER DIFFICULTIES

OF all the mountains in the Alps, Mont Blanc, the highest, inspires the greatest awe.

More persons have been killed here than anywhere else; in fact, whole caravans have been lost, and accidents occur so frequently that it has been named the fool-killer.

While the Matterhorn is an alpinist's peak, novices leaving it alone, Mont Blanc lures all sorts and conditions of people. Being so high, 15,781 feet, it is seen from thousands of places in France—as far away as Dijon, Macon, and even Langres, 135 miles distant; the lower plains of Italy; from the higher points all over Switzerland; and at Geneva, 53 miles away, it is one of the sights and may be seen from the streets.

After leaving Zermatt and the Matterhorn my whole attention was concentrated in plans for getting to the top. It is not an easy job getting to the summit without luggage, even with first-class guides—for climbing Mont Blanc is extremely fatiguing—and with a cinema camera the difficulties were greatly increased. Above the Grand Plateau, for instance, the maximum load of each porter must not exceed 10 kilos, yet my camera alone weighs 15 kilos. Circumventing regu-

lations did not worry me, but what required thinking out was how to place the camera on steep ice-slopes and take moving pictures without joining the other caravans which have gone on to that country from which no traveller returns.

I hit on a plan, however, and on the 17th of August, at the head of the British and Colonial Kinematograph caravan, left Chamonix with six porters for the Grands Mulets, a refuge in the rocks above the Tacconnaz and des Bossons Glaciers, where one spends the night before dashing for the summit.

As usual we were very heavily loaded, carrying, in addition to the British and Colonial cinema camera, tripod, 2000 feet of film, half-plate camera, second tripod, extra clothing, rope, two days' food for my wife, six porters and myself, eight sets of heavy iron *crampons*, or climbing-irons, for passing the Bosses du Dromadaire the next day. The weather was perfect.

We had a good send-off from the curious crowd gathered at the rendezvous at the Statue of De Saussure, and all went well until we got to Pierre Pointue, 3278 feet above Chamonix. Near here we were exposed to dynamite-blasting operations by workmen constructing the funicular railway up the Aiguille du Midi, and, consequently, could not stop to take pictures. Higher up, just beyond Pierre à l'Echelle, we met with an accident that might have proved fatal. In passing the *couloirs*, or gullies reaching down from the Aiguille du Midi, there is always danger from avalanches. Huge stones from natural causes are continually coming down and guides pass here on the run. We had no

more than got out a little way on the Glacier des Bossons than from high above us on the aiguille came the sound of an explosion, the avalanche warning, and instinctively we all turned to see which way the debris was coming. Workmen had not caused this one!

Horried, we saw giant stones weighing tons above our heads bounding and ricocheting towards us. We were on ice with crevasses all around, so I stood perfectly still and watched. The bombardment was terrible. As the stones began ripping up the glacier the porters attempted to find shelter, and their excitement caused my wife to attempt to run, causing her to slip and slide to the edge of a deep crevasse. Most of the big stones fell short, crashing into the crevasses, upsetting the ice on top of them, while a few passed over our heads. Miraculously, no one was touched, and when my wife could be put again on her feet she complained of one of her ribs, but insisted on continuing the climb. On the return to Chamonix afterwards, however, the doctor found the rib was cracked.

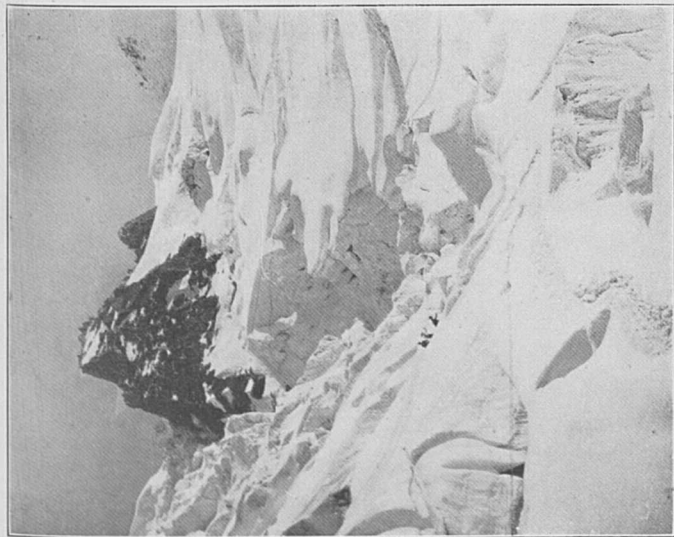
It may be said here, for the benefit of amateurs, that many cautious guides are abandoning the Pierre Pointue route on account of avalanches, and are reverting to the route up the Montagne de la Côte, the route up Mont Blanc taken by the famous guide, Jacques Balmat, in 1786, when he made the first ascent, which route is comparatively safe and extremely picturesque.

We lost no time in getting out from under the Aiguille du Midi. Owing to the crevassed condition of the glacier it was decided to rope up the party into two caravans, leaving me with two porters and the cinema

camera. I spent two or three hours cinematographing the curious ice formations here. Looking up the Glacier des Bossons, the seracs, or ice pinnacles, are superb. Some of the ice towers are higher than houses and lean over in the most disconcerting fashion until carried forward by the moving glacier they fall with a tremendous crash. Some of the pinnacles are joined at the top, creating gloomy caverns with clear blue walls, which suggest a ruined city of ice, and passages among them may be found by the daring.

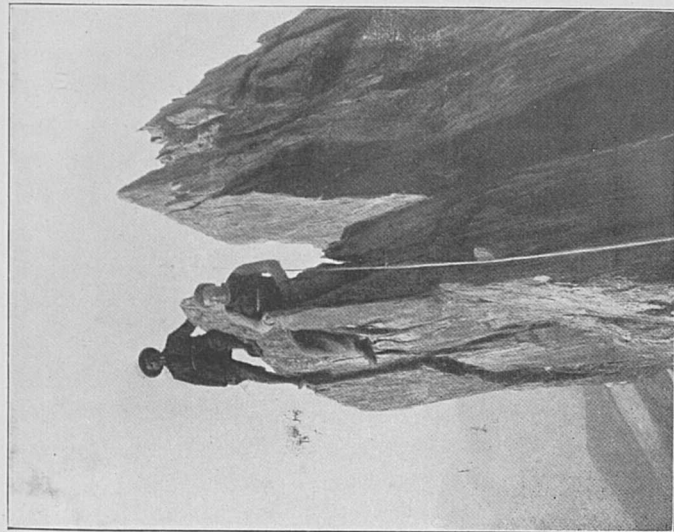
The danger beneath the feet is even greater. While the great towers may fall the frail snow bridges over ghastly-looking crevasses are more likely to give way, letting one down many yards. It is for this reason one is always roped to at least two others, so in case one of the party breaks through the other two hold him suspended on the rope until rescued. The path through this forest changes from day to day, even from hour to hour, by the caving in of these bridges, so that it often happens, as it did to us, that in returning one finds the old route abandoned and the new one reached by a wide detour.

Guides have a remarkable capacity for estimating the strength of snow bridges or just when tottering towers have reached the danger point, so that both as a rule are obviated before an accident occurs. Breaking through snow bridges, however, is not a rare occurrence, and I recall on one occasion that in passing the Junction on Mont Blanc one or another of our party, myself included, broke through four times in the course of one hour.

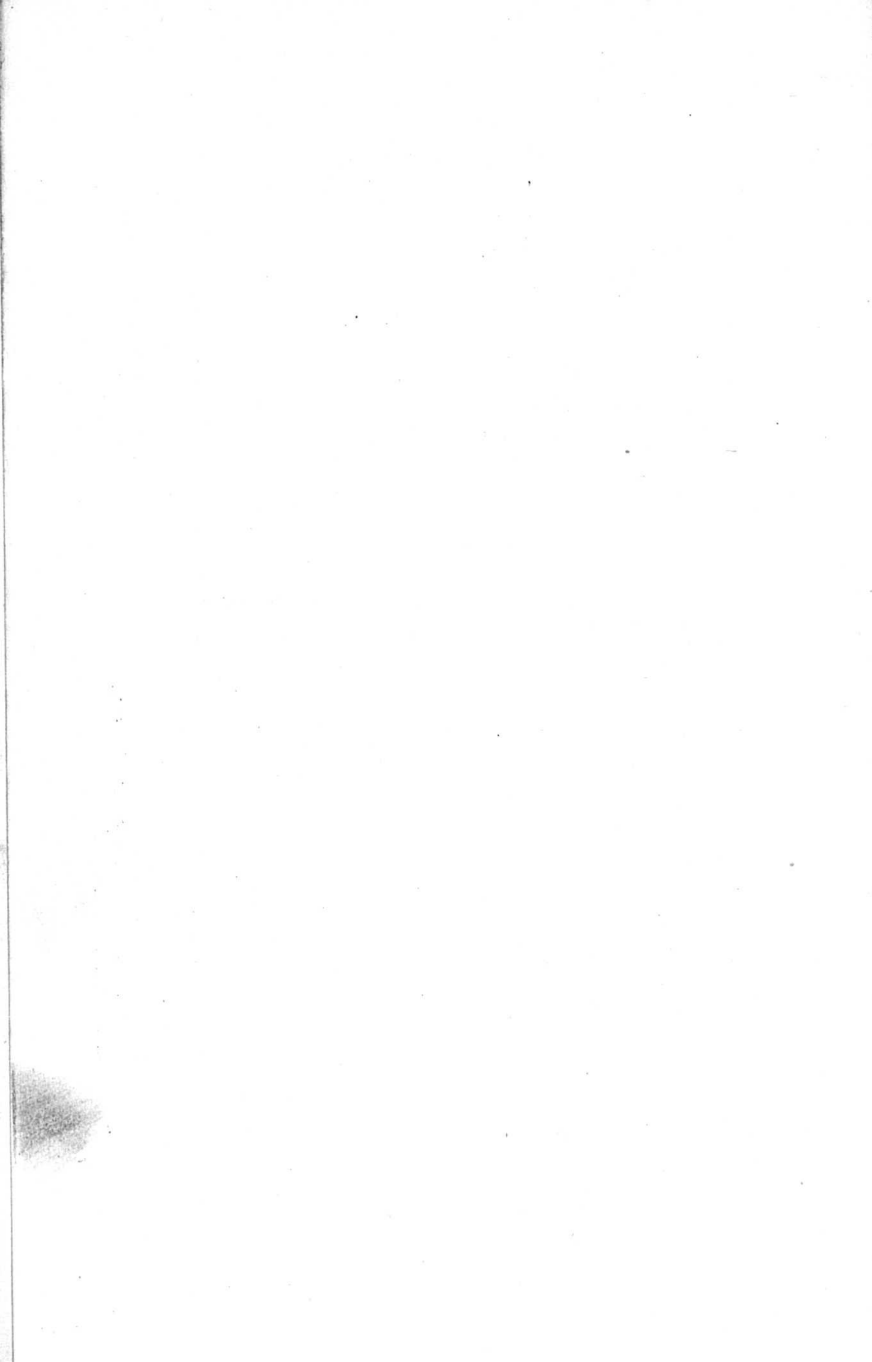


AT THE "JUNCTION" OF THE TACONNAZ AND DES
BOSSENS GLACIERS.

With microscope Grands Mulets Refuge may be seen
on nearest rock needle.



EXERCISE BEFORE DINNER
on the Grands Mulets Needles.



We lunched hurriedly again at the Junction of the Bossons and Tacconnaz Glaciers, the most crevassed part of Mont Blanc, and then began the ascent of the crevassed snow-slopes leading up to the Grands Mulets. One thing struck me as particularly worth noting. Both glaciers here looked larger than before, and when I asked the guides to account for it they stated that without doubt the glaciers were rapidly increasing. The general impression is that all the glaciers in the Alps are slowly shrinking up. The time was, in fact, when the Glacier des Bossons and the Mer de Glace came right down in the valley almost into the green fields. For decades, however, both have been receding. With the return of cold summers, wet winters, and worse springs, the glaciers, like rivers, are rising at their sources and gradually are swelling all along their beds. With this additional tremendous pressure above, the foot of the Glacier des Bossons is now beginning to lengthen measurably. To what extent this is so would be worth scientific investigation.

We arrived at the Grands Mulets, 10,113 feet, about four o'clock without incident and climbed out on the rocks in the sunshine to bask like lizards. The refuge is built on some sharp rock pinnacles, or projecting portions of a hidden ridge leading up to the Grand Plateau, and the view from here is superb. While doing nothing in particular except to gaze at the slopes of the Mont Blanc du Tacul, suddenly there was the sound of a tremendous avalanche starting, and just where I happened to be looking I saw some huge seracs break off from the suspended glacier and commence a

terrible tumble, of probably 2000 feet, down on to the Glacier des Bossons. The noise was so great that others came running out from the refuge to see what was going on. The pieces of glacier broke up in descending, until the whole slope looked like a giant cascade. The crushed ice filled the gullies and slid down like water, to leap again into the air. The echoes came back from all around, the cascade lasting two minutes at least. Some of the guides said it was probably the finest avalanche they had ever seen.

Just before dinner some volunteers offered to ascend the Grands Mulets needles for the cinematograph, which aiguilles are very precipitous and rather stiff climbing.

Cachat, the host at the refuge, then came to call me for dinner. I felt riveted to the rock, however, drinking in the grandeur of the scene. The sun was setting in an aureole of colour, such as one sees in the high mountains, while the fleecy clouds reflected scarlet, pink and purple. Below the valley of Chamonix was already in gloom, and the lights of Chamonix, a mere speck below, began to twinkle in the growing darkness. Then came the twilight and a pallor spread over the glaciers, until one wondered at the infinity of Nature.

In all the world I know of nothing comparable to such an alpine scene, and when the mortal worms, who grope in the darkness and polluted civilization below, get a gleam of this realm above, nothing on earth, not even the fear of death, will hold them back. They, too, must drink in this glory.

This is the ennobling aspect of alpinism and why I

believe that if people will lift up their eyes unto the hills mankind may yet be regenerated.

Inside the refuge that night was another scene. Gathered around the table were Mr A. W. G. van Riemsdyk, a distinguished Dutch alpinist from Haarlem, and Mr Kurt Wittgenstein, from Vienna; later M. and Madame Henry Maige, well-known French alpinists, arrived without guides.

Sleep, however, was out of the question. The hut at the Grands Mulets is so badly constructed that the light of a candle may be seen through chinks in the wooden walls, and the slightest sound, even persons whispering, echoes all over the building. It was with a feeling of relief, therefore, that shortly after midnight everyone was aroused and preparations were made for the climb.

Outside the prospects were ominous. There was wind, a bad sign, and clouds scudded across the moon. The crags moaned as we breakfasted, and no one volunteered to predict what kind of weather might be expected.

It was too expensive to remain marooned at the Grands Mulets, so I decided on hazarding the ascent, hoping that the weather would clear with the sunrise.

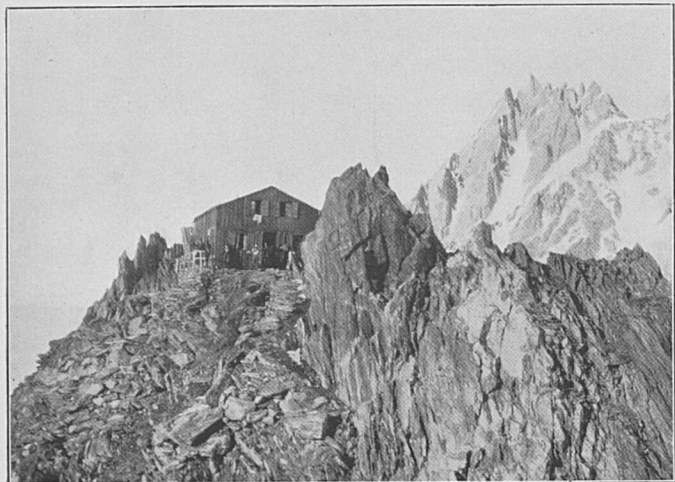
We got away shortly after the others, climbing without lanterns, the moonlight being sufficient. The snow was in good condition, and in spite of the loads we made good time. To get an idea of the immensity of Mont Blanc there is no better way than to climb over these vast glacial plateaux at night. The seracs

stand out in the gloom like spectres and the unfathomable crevasses are black. It is the long snow-slopes, however, which undermine one's courage, for the fatigue of mounting step by step hours without ceasing is great.

If one gets ill with mountain-sickness the attack usually comes on near the Côte du Dôme, above the Grand Plateau. Getting out of the way of a possible avalanche, therefore, we stopped a moment to rest and have another light breakfast. It was daylight by this time, but the wind had increased and the snow and fog bothered us considerably. Being within two hours of the Refuge Vallot, which is at an altitude of over 14,300 feet, we decided to push on and wait, as it was still early in the day. On the Col du Dôme the wind was frightful, near the danger point, and we lost no time in making for the refuge. Owing to being in the clouds, scarcely anything could be seen; in fact, when within a few feet of the refuge it was too indistinct to cinematograph.

Most of us remained huddled in the refuge, hoping for a change for the better in the weather. Only one of the caravans which were at the Grands Mulets the night before attempted to pass the Bosses du Dromadaire. This caravan had disappeared for so long in weather bordering on the dangerous that the guides remaining in the Refuge Vallot decided in consultation not to descend before the missing ones were heard from, fearing an accident.

After two hours' waiting, the advance party, beaten, returned to the refuge coated with ice. After another



THE REFUGE AT THE GRANDS MULETS
and the Aiguille du Midi in the background.



B. AND C. CARAVAN ARRIVING AT THE REFUGE VALLOT,
over 14,300 feet. The Vallot Observatory is seen below.

short wait it was decided, as the storm was becoming furious, that the safest thing was to descend as quick as possible. My disappointment was extremely keen, but it was impossible to struggle against the elements. I recalled the case of Mr Randall and Mr Bean, both American, and the Rev. G. M'Corkindale and eight guides who were trapped on Mont Blanc in a snow-storm, and the story of how twelve days later a caravan of twenty-three guides found five bodies near the summit, the other six never having been found. Mr Bean was found frozen, sitting in the snow, and by his side was a note-book in which he had recorded what had occurred and the slow oncoming of death.

We retreated to Chamonix.

The following day I was asked repeatedly if it were true that a Swiss gentleman had been frozen to death in the storm. I replied that nothing was known about it at the Grands Mulets, and therefore I did not think it was true. The sad thing was true, however. The party made the ascent from the Tête Rousse, not by the Grands Mulets, and getting lost near the Col du Dôme, could not find the Refuge Vallot, where we were. Sinking down with fatigue, one of the three went to sleep, and could not again be awakened by his comrades.

I was determined not to be beaten.

As soon as Mrs Burlingham's cracked rib healed somewhat and the weather again became fine I again started off for the great white mountain, determined this time to win. I am not a Christian scientist; nevertheless, I had "new thought" on the weather,

and I am not quite sure but that anyone with an unflinchable will can still the elements.

This time we avoided the Pierre Pointue route, not wishing to crack any more ribs, and used the Montagne de la Côte. I changed my guides also, my wife wishing to be roped to Emile Ducroz, in whom she has complete confidence. In the party was Olivier Ducroz, the sixteen-year-old son of Emile, who was in charge of a mule as far as the Chalet des Pyramids. Here one of the porters, who had just returned from Mont Blanc and was very tired, was discovered drinking and unfit to proceed, so the father arranged that Olivier should take his place, although the boy had never before been on Mont Blanc. Olivier undoubtedly is a born mountaineer and showed great endurance throughout the climb, and I take pleasure in recording here his first ascent.

The caravan now consisted of Emile and Olivier Ducroz, Jean Cachat, René Claret Tournier, George Simond and Leon Couttet, who gave complete satisfaction throughout a difficult task.

As I had filmed the passage of the " Jonction " and the ascent to the Grands Mulets on the premier ascent, we stopped very little and made rapid progress, arriving at the refuge early in the afternoon. This long rest before dinner undoubtedly facilitated matters on the morrow.

At dinner that night were several alpinists, including a New Yorker, Mr Williams, a distinguished alpinist, who was the first, I believe, to traverse the Aiguilles du Dru. He had come up with the intention

of crossing Mont Blanc to the Rifugio Torino by way of the Mont Maudit and Mont Blanc du Tacul, but was advised to abandon the project later on account of wind.

We got away from the Grands Mulets in the morning about half-past one, divided into two caravans, my wife going with Ducroz and I retaining two porters, who carried the cinematograph apparatus. Mr Williams and a second caravan were ahead of us, not having to bother with luggage, and for nearly three hours we saw ahead of us on the snow slopes the faint gleam of their alpine lanterns. We, too, used lanterns as far as the Côte of the Grand Plateau. Just before reaching here the sky suddenly became overcast, blotting out the stars, and it began to snow as it had never done before. In a few moments we were covered with a white mantle and my hat began to sag with the weight.

"This is a nasty business," I said to Ducroz.

"It is not going to last," he said, and as dawn broke the clouds faded away. Sunrise in the Alps is one of the glories of Nature, and seeing the aurora in the east and the Chamonix needles silhouetted against the pink skyline set us all wondering.

Mrs Burlingham climbed wonderfully well. In fact, we made such fast time that we overtook one of the light caravans on the Grand Plateau and mounted the Côte de Dôme still feeling fresh.

Without unloading the cinematograph we continued straight on for the Refuge Vallot, arriving here about seven o'clock, and breakfasted outside alongside the rocks. Clouds again appeared, and in sweeping

past the higher summits like the Aiguille Verte, Aiguille du Midi and Mont Maudit clung to the terrible precipices like water eddies behind a stone in a swift current. The summit of Mont Blanc remained clear except for the passage of thin vapour mists which disappeared as swiftly as they came.

While others were strapping on their climbing-irons for passing the Bosses du Dromadaire I went to the side to cinematograph the famous Aiguille de Bionassay, which appeared below us on the left, and got a fine vision of the great knife-edged *arête* over which alpinists pass from the needle to the Dôme du Goûter. Turning east, I continued cinematographing our party leaving the Refuge Vallot bound for the Grand Bosse.

From the Refuge Vallot to the summit of Mont Blanc one passes over two large domes called the Dromedary Humps, which are nearly always ice-coated. It would take hours, if not days, to cut steps over these two projections, so sharp-pointed climbing-irons are used to prevent anyone here from slipping. On account of the steepness of the Grand Bosse, or first one, guides do not go to its summit ridge, but when about two-thirds up veer to the left and pass out over onto the iced side, which drops precipitately about 1000 feet down to the Grand Plateau. This passage is probably the most disconcerting on Mont Blanc, and was the scene of an accident only a few days before. One of my old guides, Jules Burnet, was ascending the Bosse when his tourist slipped, dragging both him and the porter off their feet. All three were descending towards a certain death with rapidly in-



BRITISH AND COLONIAL CARAVAN, INCLUDING MRS. BURLINGHAM,
on the summit of Mont Blanc.



MR. FREDERICK BURLINGHAM ON THE SUMMIT OF MONT BLANC,
the highest point in Central Europe.



creasing momentum, when by an extremely skilful manœuvre Burnet got his ice-axe into the slope and managed to check the fall. Burnet told me this was his narrowest escape. I thought of this story while passing out on the sloping ice, but said nothing about it until we got back to the refuge, for which silence my wife thanked me.

Once around the Grand Bosse walking is easier. Only in high wind should anyone feel concerned on the Petit Bosse. The Mauvaise Arête, however, is vertiginous, for the iced slopes are steep on both sides, the summit ridge being scarcely more than one foot or eighteen inches wide. One needs a good sense of balance to pass here, for a slip might precipitate one into France far down onto the Grand Plateau on one side, or many thousands of feet into Italy on the other. I got a magnificent picture of our party passing this backbone of ice.

Higher up, passing from La Tournette by the long *arête* to the summit, is one of the most tedious passages on the mountain. The summit seems to recede as one ascends. The steepness of the slopes on both sides, however, prevents this passage ever from becoming uninteresting.

For several yards one walks straddling this great ice ridge, both feet being lower than the summit, one being in France and the other in Italy. The whole world seems far below.

Gradually the gradient lessened and this sharp edge widened into a small plateau and we knew we had arrived. Here we stood on the highest mountain in

Central Europe, 15,781 feet above the sea, dominating all others, with joy in our hearts.

Almost the first thing which struck my eye was the Matterhorn, many miles away, pointing skyward, on the summit of which I stood only a few weeks before. As far as the eye could see was a perfect galaxy of peaks. In the same direction one could distinguish the Weiss-horn and Monte Rosa.

Below, more to the left, were the Chamonix Aiguilles and the Aiguille Verte, a veritable peak of terror. To the north was Lake Geneva, nearly sixty miles away, half hidden by great banks of cumulus clouds, which looked extremely strange as we were above them. To the west a large part of France unfolded itself, while to the south one could see to the Monte Viso, the Maritime Alps and the Alps of the Dauphiné.

Near-by one looked down on the Mont Blanc de Courmayeur, the Aiguille de Trélatête, the Pyramids Calcaires and the Col de la Seigne, where I went some years ago to get a picture of Mont Blanc.

We all of us unroped to better move about or rest seated on our sacks in the snow. The wind, however, was biting, so I, personally, lost no time in getting what cinematograph effects I wanted.

The wind increased. Mists began to interfere with the photography, and as they grew denser Ducroz advised getting below past the Bosse, as wind there is very dangerous. Very reluctantly we roped up again and began the descent; wisely, too, for the wind on the ice below made infinite caution necessary.

The descent to the Refuge Vallot and the Grands Mulets was made rapidly without incident, and after a short rest we continued on to Chamonix, arriving shortly after dark, rather tired out, but with 2000 feet of superb negative.

On an Alpine Funicular Railway

XVI

ON AN ALPINE FUNICULAR RAILWAY

THINK of shooting the chutes on a real scenic railway over two miles high!

A few years ago anyone who talked of building such a line would have run the danger of being locked up in a mad-house. To-day some Swiss engineers and Italian constructors not only have declared such a railroad to be feasible and raised £250,000 to build the line, but part of it is already working! That is, material is being hauled up thousands of feet over pylons and daring workmen use the line to mount to and descend from their work.

Those who love great altitudes, therefore, but cannot climb, will soon have the opportunity of riding safely up precipices where not one alpinist out of a hundred would dare to venture.

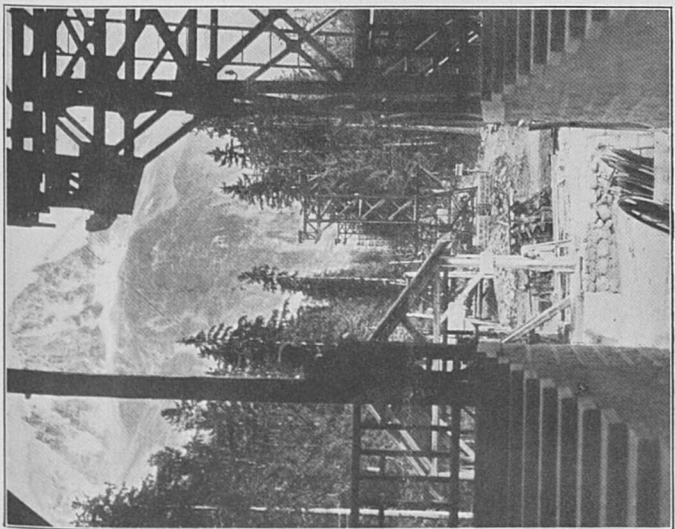
This extraordinary railroad is to run from Chamonix, in France, up the Aiguille du Midi, a precipitous needle rising 12,608 feet. Its object is to show tourists the unmatched glories of Mont Blanc and its chain of peaks and glaciers. Instead of running on terra firma, however, like most of the Swiss mountain railroads, it is to go through the air on pylons and cables, swinging from peak to peak, or from jag to jag, far above the eternal snows and glaciers. The idea of constructing this

remarkable railroad originated in the brain of M. Fidele Eugster, a Swiss living at Dijon, France, who is supplying the necessary funds for its construction. He applied to a firm of engineers in Zurich and Berne, who declared it feasible.

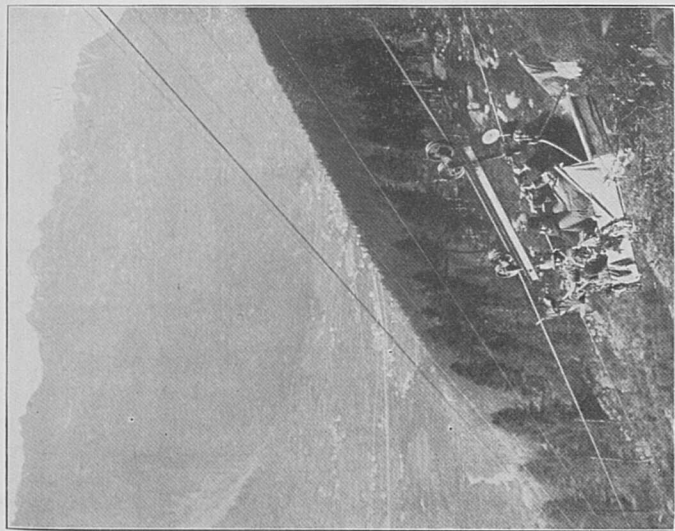
BOLD SCHEME AMAZES

On arrival in the valley of Chamonix to see this aerial line I was more amazed than ever at the boldness of the scheme. Being an alpinist, and knowing that climbing the Aiguille du Midi from the Chamonix side is not a job for amateurs, but rather one that requires sang-froid and rare judgment, it was beyond my comprehension how constructors expected to find workmen to do the job. The Aiguille du Midi, moreover, as the reader may have remarked, has a bad reputation for avalanches and falling stones, and in some *couloirs* these come down every few minutes. Light was shed on the subject by M. Braegger, a Swiss engineer, who has charge of the work.

"We do not intend to climb the granite or work on the glaciers," said M. Braegger, smiling; "moreover, we are not concerned with avalanches which will roll harmlessly below us. We intend to swing from peak to peak and from pylon to pylon situated on these summits, and as avalanches do not come from the clouds, we will not bother about them. There may be some hard work in erecting two or three of these pylons, but once they are in place the material and workmen will be hauled up by cable, as passengers will be later."



THE SWINGING RAILWAY
now in construction up the Aiguille du Midi.



TYPE OF CAR USED BY WORKMEN.

Imagine being in the passenger car running on swinging cables between two peaks when the sharp crack of a starting avalanche is heard! Think of the thrill of seeing hundreds of tons of snow, ice and debris dash past under the car and plunge into the valley below with a tremendous roar! This alone, for persons looking for new sensations and excitement, should be worth the price of the ticket.

SUPERB VIEW FROM HEIGHT

The starting station of the line is situated down in the valley of Chamonix. To reach the power station above, where the traction cables are set in motion by 75-h.p. electric motors, passengers ride in suspended cars with a seating capacity of twenty persons, over 2000 metres of cables suspended on twenty-seven pylons separated by distances varying from 25 to 145 metres. This power station, near Pierre Pointue, on the alpinist's route up Mont Blanc, is at an altitude of 1670 metres. From the power station to the third station, just under the shadow of Aiguille du Midi, is a second series of twenty-four pylons. The cable between these two stations is 1400 metres long.

The view even at this height is superb. Chamonix is nearly one mile below—4600 feet to be exact—and from here one gets a good idea of the majesty of the Chamonix aiguilles, such as the Aiguille du Plan, the Blaitière and the Charmoz. One has a bird's-eye view of the whole valley of Chamonix from the Col de Balme to Servoz with the Aiguilles Rouges on the other side.

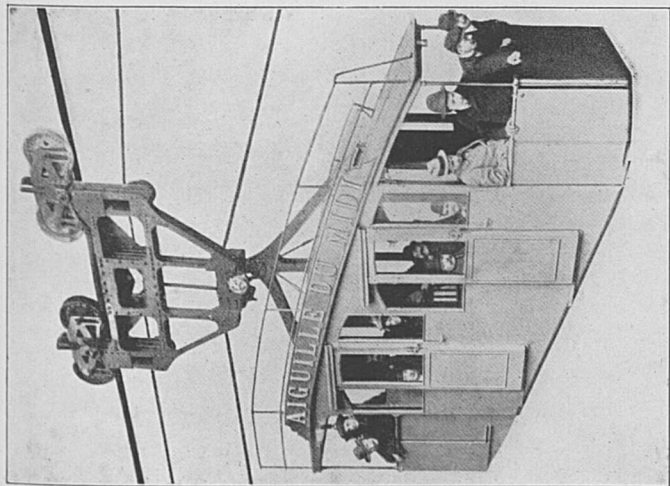
On the left one may look down on the plateau of the Glacier des Bossons and across to the Grands Mulets and the Aiguille du Goûter. Mont Blanc appears magnificent from Chamonix, but from here one may get a much better idea of the immensity of the ice-fields and seracs through which one must pass to reach the top.

At this station one changes cars and the system of transportation changes also. It is just as well, too, for the ascent has been so rapid, and the change in the density of the air so great, as to be uncomfortable to people with weak hearts. At station three, therefore, one may rest and get his breath, for the most sensational is yet to come. From now on one swings through the air.

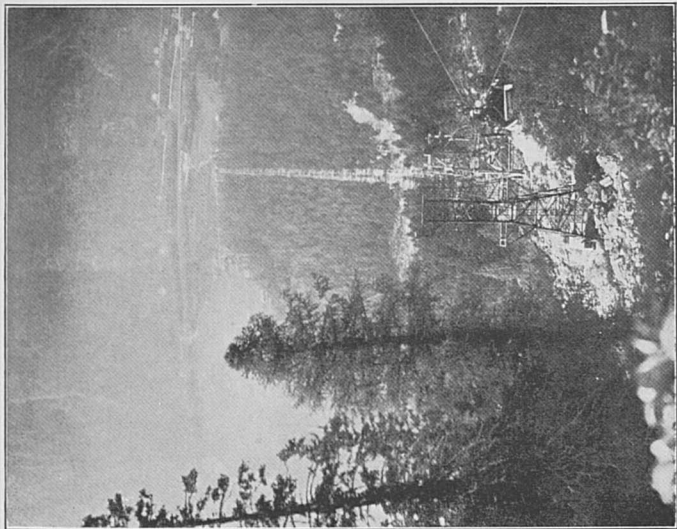
The cars used on this last section are smaller, accommodating only sixteen persons. They are more like a basket. When the signal is given the car immediately runs out on a single span of unsupported cable, 2130 feet long, swaying 500 feet above the Glacier Rond. The engineering feat, in this case, has been to anchor the two ends of the long cable, for on the lower end the engineers have been hampered with loose moraines and have had to descend considerably to get a firm grip.

TWO MILES ABOVE SEA

The fourth station, altitude 2860 metres, is situated on a pinnacle of granite almost opposite the Grands Mulets, and passengers stopping here will get an idea of what real alpinism is, for climbers still do the Aiguille



TYPE OF CAR IN WHICH TOURISTS WILL
 "SWOOP THE SWOOP."
 (Photograph reproduced through the courtesy of
 Ceretti and Tanfani, of Milan.)



ALPINING WITHOUT EFFORT.

du Midi from this face. This station, however, is little more than a relay, for the objective point is the Col du Midi, 11,647 feet above the sea. To swing from the fourth station to the summit of the col is impossible in one swoop, so half-way, on a projecting pinnacle of granite, the engineers are placing a tension pylon to relieve the strain. To this tension pylon, however, is an unbroken swoop of one half mile—2788 feet to be exact—and from the tension pylon to the summit another shoot of 1837 feet. The angle which the line takes varies from 15 to 48 degrees.

A hotel is to be built to accommodate about thirty persons who may wish to spend the night aloft, but particularly for alpinists; for on the south side one is immediately on the Valley Blanche, a vast extent of snow easily traversed and across which one may go to climb the Dent du Géant and, in face, nearly all the aiguilles in proximity to this vast basin. It has been proposed that winter sports in August may be popular here. Tourists, too, once on the col, could easily do the remaining 1000 feet of the Aiguille du Midi with the assistance of good guides.

Ingenuity has not been spared to make this freak railroad absolutely safe. During the first part of the voyage the cars will run on double cables 64 millimetres in diameter, so that in case one breaks the other will be sufficient to stand the strain. Should the traction cable break, the cars automatically stop by gripping a second cable called a cable frein or cable for braking purposes. This brake cable, if the traction cable breaks, by the turning of a switch at the power

station, can be run over the revolving drums, thus acting as the traction cable.

GUARD AGAINST ACCIDENTS

On the second part of the journey lighter cars run over a single span of cable which, being firmly anchored and examined minutely each day to see it is not wearing, presents no danger. Tourists, therefore, may have an attack of alpine vertigo, and even if there are no friends to keep them from jumping overboard they would find it difficult to get out of the windows before the arrival of the guard.

Travelling as I did the other day, however, is different. There were several easy ways of committing suicide. I was watching the car arrive from the power station when someone touched me on the arm.

"If you are interested in seeing how the line works," said M. Braegger, "you had better get on the car and go up. It is strictly forbidden, but—"

In a moment I was seated on a flat car about the size of a dining-room table, and was told to pay attention to the pylons in passing, as there was danger of getting a cracked skull. I braced myself, sardined with some workmen, and the foreman called out that he was going to signal to start. Touching an electric button, he gave the signal to the power station above, and we began to glide upward.

ENTIRELY NEW SENSATION

The riding was as smooth as that of a boat on a placid lake. There was a slight side swinging motion,

and the sensation of climbing by electricity to Pierre Pointue, on the route up Mont Blanc, without any effort, was delightful.

As we rolled towards the first pylon the car moved slower and the traction cable tightened until the pylon was reached; then there was a click! click! the pylon was passed, and we swooped down rapidly until the operation was repeated and again the traction cable took up its slack. Up and down, twenty-seven times, gradually climbing higher, until we arrived at the power station as gently as a gondola touching its wharf.

Here, then, is something new for the jaded traveller! There is nothing like it anywhere else in the world. Your experiences have been incomplete unless you have tasted the joys of "swooping the swoop."

In an Alpine Blizzard

XVII

IN AN ALPINE BLIZZARD

BEING nearly frozen to death in midsummer in Italy is not an ordinary experience.

When the *tourmente* struck us we were crossing the Mont Blanc chain from France to Italy, and were within a few feet of the highest part of the pass. It was the first time I had ever noticed clouds dropping perpendicularly instead of sweeping along horizontally, and the effect of this alpine phenomenon made a lasting impression. To make matters worse we were enveloped in a pall of mist as dense as a London fog in December, and but for the path-finding instinct of our guides we might have been up there yet somewhere buried in the snow. When the storm broke I had been on my feet thirty-two hours with no sleep and practically no rest, but fortunately I was in very fine training.

The day before this adventure I left Chamonix at six in the morning with my camera for the Brévent in order to get some photos of Mont Blanc from the distance. I went up by Bel Achat, returning by the chimney and Plan Praz, arriving at Chamonix about six the same evening. While unloading my sack a note was handed me saying that M. Laugel and two guides had gone to Montanvert to do the Aiguille du Midi the next day, and that he was anxious for me to join them.

The last train had already left for Montanvert, 2858 feet above, but in spite of my twelve hours' walk I decided to leave on foot as soon as I could get some dinner and repack my sack for a big climb. Leaving Chamonix about nine that evening I struck out for the Mer de Glace in the darkness. Knowing that it was necessary to conserve my strength for the next day I went up leisurely, enjoying the fragrance of the pine, the glow of phosphorescent worms which rivalled in interest the myriad lights of Chamonix now far below. At eleven o'clock I arrived at the Montanvert Hotel, where everyone was asleep. Pound on the door as I might, no one answered. After twenty minutes of vain effort I resorted to throwing pebbles against the windows, which in due time brought down the night porter, who, rubbing his eyes, succeeded in getting sufficiently awake to show me a room and tell me that M. Laugel had left a call for one o'clock. It was midnight before I lay down half-dressed on the bed, not to sleep—for owing to the violent exercise and no rest blood was racing through my veins and brain—but I did get a few minutes repose, which was valuable.

At one o'clock I was called and told breakfast was waiting in the dining-room. Hurrying down, I found M. Laugel discussing with the guides the weather, which was foreboding. It was too warm, and slanting clouds struck across the sky, and worse yet, clinging to the Aiguille Dru, was a cobwebbed-looking veil of mist.

We decided to risk it!

Finishing rapidly our breakfast of hot coffee, rolls, butter and honey, we shouldered our sacks while the

guides lit the lanterns. Without losing time we struck out for the glacier. We were heavily provisioned, and thought, in case of a quick change of weather, we could make either for the refuge under the Aiguille du Midi or else the Rifugio Torino on the Italian side of the Col du Géant. Another caravan which had planned to leave the Montanvert at two o'clock abandoned the project.

Carrying lanterns, we passed quickly Les Ponts in the darkness. Within half an hour we had descended on the frozen sea and jumped crevasses by lantern light. It is a curious sensation being out there in the starlight, in the dead of night, alone, where the only sounds audible are the mountain cascades and our boot nails crushing the frozen ice.

What a dawn it was! As the veil of darkness lifted we were steering for the great ice fall in the Glacier du Géant.

The panorama was startling. As the morning broke, dense black clouds clung to the Aiguilles Rouges, while in the east and south the snow peaks turned blood-red. Burnet spoke to the porter in patois, and we moved faster. To the left of us the audacious Dent du Géant, 13,166 feet high, seemed to be overhanging. To the right were the Chamonix Aiguilles, while behind was the range of the Aiguille Verte, as dangerous to climb as any in Europe. When we arrived just below the ice cascade, up which we had to climb, our caravan crossed the glacier to the right.

Some years ago it was customary to continue past the ice fall of the Glacier du Géant by the lower

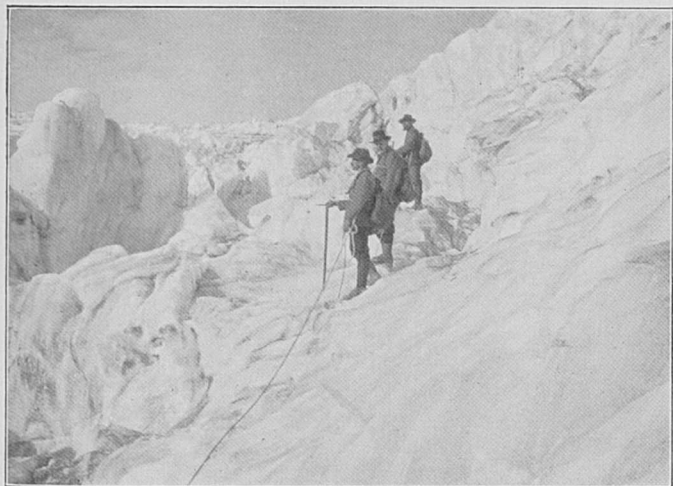
rocks of the Aiguille Noire, or by the ice and steep snow slope on that side. To-day guides consider it less dangerous to cross the glacier, about three-quarters of a mile wide at this point, and find a passage through the seracs near the Petit Rognon. The hazard about the latter route is that the ice pinnacles, or seracs, are constantly tumbling, as the glacier itself is in movement, and the route is constantly changing.

Our two guides were Jules Burnet and Emile Ducroz, both from Chamonix. Ducroz went first and began cutting steps in the ice. After ascending a portion of the ice wall we found it impossible to pass without wings, and were forced to descend and try a little further to the left. Imagine the sensation of standing on a step cut into the high ice ridge, with dark blue crevasses all around and tottering towers of ice above, waiting for other steps to be cut in order to proceed.

Ice literally flew off the ice-axes at work, and at the end of two hours, a remarkably short time, we stood above this frozen Niagara, a wilderness of desolation, the only life visible being the millions of maggots which live up there in the rotten ice.

This glacier is one of the most famous in the Alps. Speaking of the ice-fall, Dr John Tyndall says:

“ It is one of the grandest ice cascades in the Alps. At the summit it is broken into transverse chasms of enormous width and depth; the ridges between these break across again and form those castellated masses to which the name of seracs has been applied. In descending the cascade the ice is crushed and riven;



AMONG THE SÉRACS OF THE "ICE NIAGRA"
in the Glacier du Géant.



MONT BLANC, 15,781 FEET,
seen from the Col de la Seigne in Italy.

ruined towers, which have tumbled from the summit, cumber the slope, and smooth vertical precipices of ice rise in succession out of the ruins. At the base of the fall the broken masses are again squeezed together, but the confusion is still great, and the glacier is here tossed into billowy shapes."

How many tragedies have occurred here no one knows!

Clouds began to gather and there was wind aloft. Notwithstanding the thickening weather we halted a moment for lunch, which is as necessary as fuelling a fire-engine.

Abandoning all idea of climbing the Aiguille du Midi, or even of reaching the refuge on the Col du Midi, we decided on making a dash for the Col du Géant and the Italian refuge.

Burnet urged us to push on rapidly. Hastily strapping on our alpine sacks, we began crossing the snow-field, steering for the rocks on the left called La Vierge. It was then a curious phenomenon was noticed. The mist or clouds were settling down on the snow, the peaks became obliterated, and we could see nothing but each other, and a faint trace in the snow made by some caravan the day before, and which, fortunately, was left to guide us. During a period of two or three minutes there was a rift in the clouds, and I was able to photograph the Dent du Géant, but immediately the veil settled down thicker than ever. The sky and the snow blended, and we seemed to be floating in the void.

We had gone only a few hundred feet further when I turned and saw following in the distance another caravan

of three. They were like ghosts, and Burnet, one of the most experienced guides in Chamonix, was thunder-struck that we had not seen the caravan before. They, too, seemed to be floating in the air, for the snow was the same colour as the grey mist. Surely it was a caravan, for they were following in order, and exactly in our traces. We all shouted together but got no reply. I turned to Laugel, but he could not solve the riddle. Suddenly Burnet broke out in a laugh.

"Sapristi!" he ejaculated. "They are not men at all!"

"What are they, then?" said I, my imagination paralysed.

"They are the three bottles we left standing upright in the snow after lunch as guide-posts, to mark the way in case we got lost in the mists!"

Burnet was right; but I should have sworn the moment before they were alpinists. The deception arose from the fact that there was nothing visible with which to compare the bottles, and as the mist had destroyed the sense of perspective, the bottles might have been men, or even rock pinnacles ten times further away.

As snow began falling, threatening to blot out the faint trace in the snow which served to guide us, we pushed on at utmost speed. To make matters worse the wind lifted the already fallen snow, blowing it in sheets into our faces. It clung to our goggles, which are used to prevent one from going blind in the snow, making it difficult to see. As the snow slope became less steep Burnet said we must be somewhere near La Vierge, which is near the summit of the pass, 11,030 feet

above the sea. We were not very far from the spot where Gratien Brunod, a guide from Courmayeur, left two members of the Italian Alpine Club resting while he went aside to get some water, and, slipping, fell 1000 feet down a *couloir* into the Glacier de Toule, and was killed. It was certainly not a place for us to lose the way, a thing easy enough to do in the mist and blinding snow. A little to the left was the theatre of another tragic accident which caused the death of three Englishmen and a Chamonix guide. There were six in the party, and having arrived at the col, were descending a snow slope on the Italian side by the side of the rocks which are usually followed. All that is known to the public is that the two men who led and followed the party let go the rope and escaped, while the three Englishmen and Tairraz went to destruction. Tairraz screamed, but, like Englishmen, the others met their doom without a word of exclamation.

Suddenly the wind came in furious blasts. The cold was intense, and the clouds shot perpendicularly past us, sweeping down the precipitous slopes facing Italy, while a little further on the mists were rushing upwards like a draught from a mighty blast furnace. Nature itself seemed to be topsy-turvy.

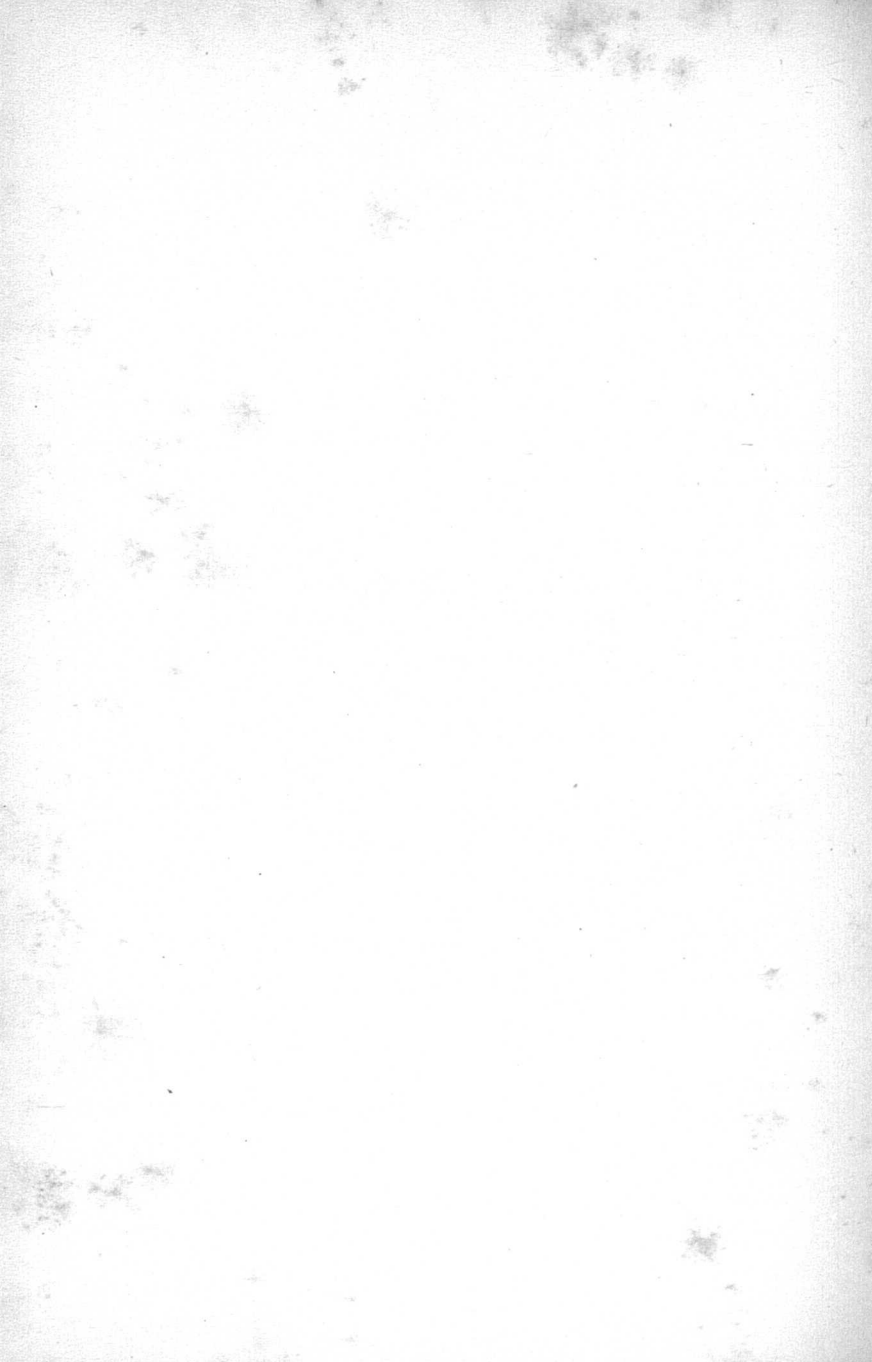
For a moment I thought we would be blown off the mountain, which accident has happened before. We could scarcely move forward, and I held my ice-axe ready, in case of a hurricane to drop down with it on the snow, using it as an anchor. Suddenly, looming through the mist, we saw rocks ahead, and made for them. It was not the refuge, but once in the granite

we could look down on the Torino almost directly beneath us. Below the refuge, however, every other outline was lost in the grey veil, the void and perdition. The merest false step might have precipitated one into the abyss.

Notwithstanding the high wind there was nothing to do but scramble down the steep rocks which, fortunately, we accomplished safely. Turning to look once again, however, at our precipitous path, which might have ended in death, I saw an apparition which made me shudder. Five priests roped together were following in our footsteps. They were not bottles this time, and for a moment the sight gave me a jar, but I recovered when one of the men gave me his hand. It was Monsieur l'Abbaye, from the village of Les Houches, an expert mountaineer, with some friends. They, too, had a narrow escape.

Owing to the storm the refuge was crowded. We decided, therefore, in spite of the fact that I had been going thirty-two hours, not to sleep at the Rifugio, so, after a good lunch, we descended to Courmayeur, and after a night's rest returned to Chamonix by two days' forced marching by way of the Col de la Seigne, the Col des Fours, and the Col du Bonhomme, a route not at all difficult and wonderfully picturesque.

Hints on Alpine Photography



XVIII

HINTS ON ALPINE PHOTOGRAPHY

THERE are several reasons why amateur photographers fail to get good results in the Alps.

Most amateurs, I believe, are in the habit of allowing professional photographers to develop and print their photos, as they wish to see results immediately. I find this propensity quite natural.

Unfortunately I find from long experience that the large majority of professionals think more of raking in the tourists' money than in conscientiously turning out good work. Moreover, I believe this commercial spirit, unchecked, is growing.

The alpine season is short. When the crowd comes the professional workshops are overcrowded with work, extra hands are put on, printing often continues late at night, and the results are mediocre in the extreme.

If this mechanical grind were confined to printing it would not be so bad, but in this haste and confusion thousands of good plates and films are irreparably spoilt in their development.

The amateur is told the fault is his, and if he, disgusted, turns elsewhere, he generally jumps from the frying-pan into the fire. During its height I have known extremely capable professional photographers, in order not to get behind with their work, to deliberately over-

expose in printing in order to get through quickly with bromide prints in the developing bath. Moreover, the tourist is not allowed to choose his favourite paper, as this would require a separate bath, but is told it is a standard bromide or nothing. Everything passes through the same bath, mechanically, until it is worn out.

Now the point I wish to make is this: I see no reason why the large and powerful photographic societies cannot put a check on conscienceless exploitation of tourists by singling out certain meritorious photographers for recommendation as automobile and touring clubs recommend hotels, and thus reward merit, while at the same time assist touring amateur photographers, who, without the necessities to do their own work, are at a loss where to turn. Until something of the sort is done it is advisable for tourists to send their plates for developing and printing to home concerns of established reputation.

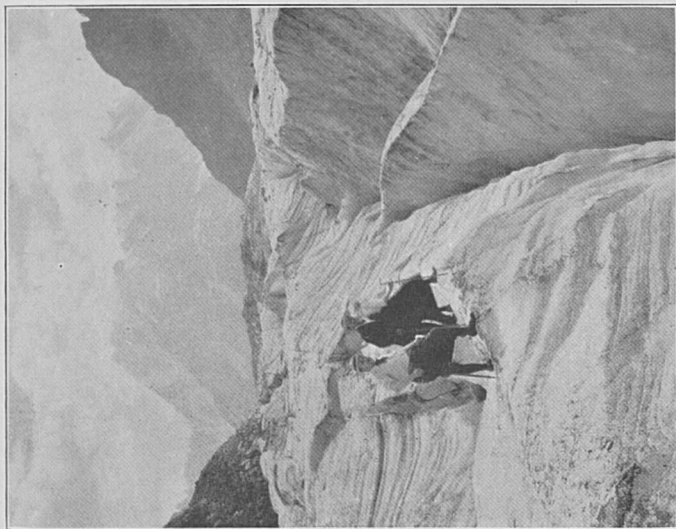
In going to the Alps for the first time it is advisable for amateur photographers to take with them films and plates, especially if their cameras are other than the most popular standard size.

The stock of plates and films in alpine centres is limited, for directors of photographic stores do not like carrying odd sizes, for there is risk of them remaining unsold at the end of the season and thus depreciating.

One of the first principles in alpine photography, as in most landscape work, is to use the tripod and yellow screen. The yellow screen cuts down the contrast, allowing one to get detail in snow and at the



COUNT DE DONNAU, OF PARIS,
taking it easy after some strenuous climbing.



CREVASSES IN THE MER DE GLACE.

same time retain the features of persons photographed. Without the screen persons come out little more than black silhouettes against the white snow. If one follows this principle of taking time exposures one may find it advantageous to diaphragm down to the smallest or next to smallest stop. Some of the best results I have yet obtained have been with a Goertz Dagor 1:6:8, smallest stop, two seconds exposure, with a yellow screen of seven densities, and with an Eastman film pack. As the tripod is usually cumbersome, it is possible with one of the very light screens now made to take snap-shots, provided one does not stop down too much.

In the Alps one is continually face to face with such a problem as photographing Mont Blanc, which ranges from brilliantly-lit snow to blue glaciers, shadowy slopes, rocky buttresses down to dark green pines in the valley.

Ordinarily, if one succeeds in getting any detail in the pines, the upper part of the mountain is too dense to print. *Vice versa*, if one gives the summit the right exposure, everything else is sacrificed.

Professional photographers obviate this by shading the summit with a moving piece of cardboard, and after some experience become very expert in striking the correct gradation. The advantage here of using the small stop and dense screen is obvious, for it gives time for manipulation. Personally I prefer to use a yellow screen graduated from one to four, which, while expensive, I find very satisfactory. Under ordinary circumstances I prefer to use anti-halo, or backed, auto-chromatic plates. When climbing, however, I rarely

use plates, as they are extremely heavy, especially the 13×18 centimetre ones, and easily broken in the rocks.

Film packs, while nearly twice as expensive, are light, unbreakable, anti-halo, somewhat autochromatic, and to my mind best suited to high alpine work. Moreover, film packs may be shipped home for immediate development, whereas the chances are plates would get broken in the post.

Both on the Matterhorn and on Mont Blanc I used two 12-exposure 13×18 cm. film packs, and had I carried plates and holders another porter would have been a necessity.

Winter photography in the Alps, especially if one is after beautiful snow effects, requires screen-work.

If one is interested in winter sports, however, screen-work is impossible. To photograph skaters or tobogganers one needs a fast camera and faster plates capable of registering impressions of $1/500$ second duration. At St Moritz last winter I found $1/500$ of a second too slow to register ski-jumpers without blurring them, and had to increase the speed to $1/1000$ of a second or even $1/1500$. In the marvellous sunlight of a Swiss winter one may work at $1/1000$ of a second and still have light to diaphragm.

Winter sport photography is a special study and one which well repays the effort and cost expended.

How to Get Killed in the Alps

XIX

HOW TO GET KILLED IN THE ALPS

GETTING killed in the Alps is becoming rapidly an international mania.

This is evidenced by the statistics of the Swiss Alpine Club, already quoted, showing that last year 165 tourists and guides somehow managed to break their necks, while the number of wounded, those who managed only to break something—arms, legs or ribs—is quite beyond compute.

The periodic massacre is due largely to the fact that alpine dangers are unseen. On the sea-shore, for instance, sane persons who cannot swim would not think of bathing in a rough sea, for the sight and roar of the waves terrifies them. In the Alps it is just the contrary, for Nature, it would seem, takes pains to cover the deadly crevasses with thin snow-bridges and avalanches come down without warning where the novice would least expect them. The most beautiful alpine flowers, too, contrive to bloom overhanging the most perilous abysses.

Some years ago it was the *elite* which climbed, while the man-in-the-street stayed in the street, or looked at the mountains from his hotel window.

Now it is a mad scramble of a hundred thousand souls to reach some snow-capped summit. As most

of these know nothing of the technique of getting killed, the following rules may be of service, and are easily memorized: A fascinating way is to go and pick edelweiss. To pluck it one must approach from above. Descend slowly, therefore, clinging to some small shrub. If a passing guide chances to call warning, reply that you know what you are about, and that tourists, as well as guides, have a right to pick alpine flowers. Lean slightly over the precipice, and as one hand grasps the alluring bloom, with the other hand pull on the shrub, which will come loose, roots and all! There will be a grating sound of loose, moving rock, the overhanging ledge will cave in, and one may soar, edelweiss in hand, into the void below. There will be three lines in the newspapers about it, and a caravan of expert guides will find the body.

Climbing without guides is why so many Germans and Austrians succeed—*vide* statistics—while English and Americans somehow, unfortunately, cannot get over the habit of choosing always the best ones. Eighty per cent. of the fatalities occur to tourists climbing without guides. Signor Cumani, an Italian artist, started to climb Mont Blanc alone twenty years ago and he has never been heard of since.

M. H. N. Riegel, from Philadelphia, in 1898, also attempted Mont Blanc alone, and guides found his body later on the Glacier de Miage, to which he had fallen from several thousand feet above.

Sitting down in avalanche paths is sometimes effective. A friend of mine, dispensing with guides, climbed up above Pierre Pointue on the route up Mont Blanc

and deliberately sat down quietly to lunch in a gully where avalanches come down off the Aiguille du Midi every fifteen minutes. Suddenly the air was filled with singing, flying stones and ice, the velocity making the smaller stones invisible. He failed to get hit, however, and disgusted, leaving everything behind, fled to Pierre Pointue, where he recommenced with absinthe cocktails.

Climbing without heavily-nailed boots, too, has its advantages. An American, who considered it commonplace to ascend Mont Blanc like everybody else, tried it with patent leather shoes. At the "Jonction" of the Glaciers des Bossons and de Tacconnaz he slipped into a crevasse, dragging with him an English friend. Guides had great difficulty in getting them out. Hot words followed the cool crevasse, and the two Anglo-Saxons, each blaming the other for what had happened, indulged in a warm pugilistic encounter in the snow. But for being attached to the guides by rope both men might to-day be buried somewhere in the glacier.

The famous guide, Emile Rey, of Courmayeur, lost his life on the Dent du Géant by neglecting to renew some worn nails. He was descending with Mr A. C. Roberts, an English climber, and as the weather was growing bad, they unroped so as to move quicker. In descending a chimney Rey jumped to a narrow shelf covered with small pebbles, when his feet went out from under him and he fell over 600 feet. His body was found and brought to Courmayeur two days later.

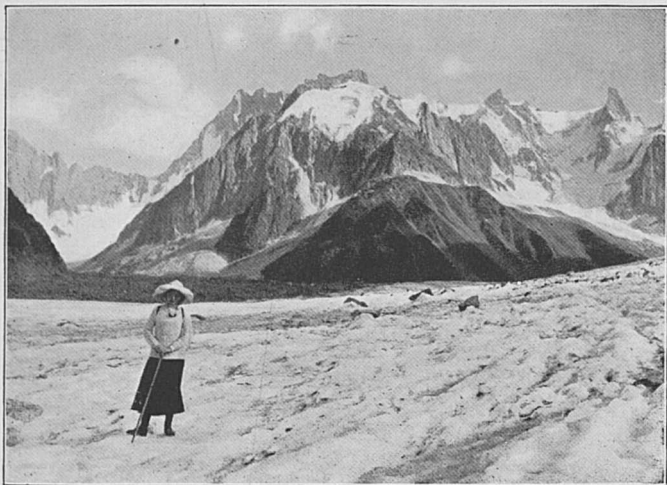
Nothing is easier than falling over a precipice. Guides say that if a tourist has a tendency to vertigo he should confine his ascension to peaks frequented by

cows. To get killed, therefore, the alpinist with vertigo should tackle the Matterhorn, Schreckhorn, or the Aiguille Verte. While it lasts the sensation of falling several thousand feet must be extraordinary. Dr Cauro, an alpinist, broke his neck falling off the Montagne de la Côte, a goat-frequented buttress of Mont Blanc; while a French actress, in 1902, trying to be polite, was instantly killed on the Mauvais Pas, by the side of the Mer de Glace, while attempting to pass outside when she met a party coming in the contrary direction.

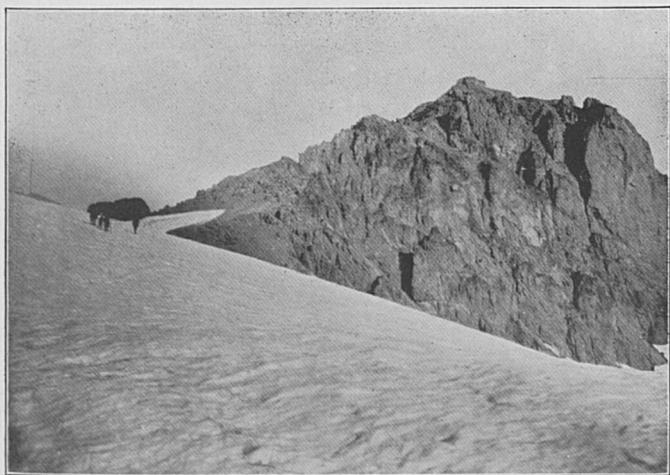
In case of passing beneath a forest fire on a mountain side, stop and have a look at the thick yellow spirals of ascending smoke. In an amazingly short time the roots of the trees burn, releasing the stones lodged between them, and these, falling, bombard the footpaths below. By watching the fire from an exposed vantage point the spectator will be hit squarely in the face by a twenty-pounder, and his body will be recognized later by visiting-cards, which, by the way, every novice should carry in his pocket.

Do not bother about heavy underwear, double pairs of socks, mittens and dark goggles when going above the snow-line. If the sun shines one may go blind, and, therefore, more easily fall over a precipice. In case of bad weather coming on suddenly, as it often does, one can freeze in a very short time. It is said to be a delicious, drowsy death.

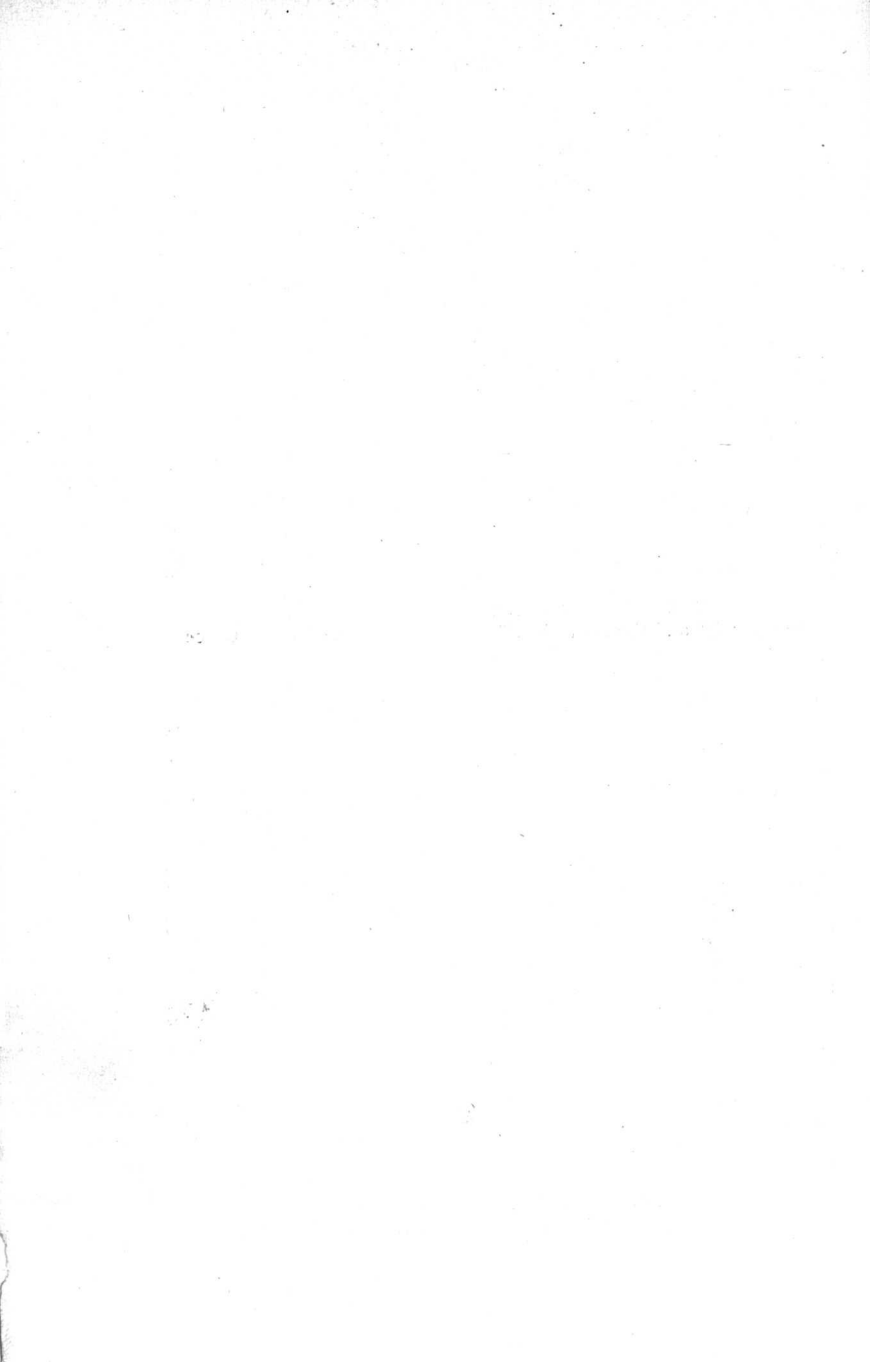
A party of three English and American tourists, with eight guides, during bad weather froze on Mont Blanc, and ten days later, when the storm abated,



THE PIC DU TACUL, GRANDES JORASSES,
Mont Mallet and the Dent du Géant seen from the Mer de Glace.



CROSSING THE GLACIER BLANC
on the way to the Belvédère in the Aiguilles Rouges.



watchers below with telescopes saw them sitting dead in the snow.

Making rash glissades is a method—adopted sometimes even by experienced alpinists. The glissade starts in sunshine in fairly soft snow, but in passing swiftly from sunshine into shadow, where the snow is freezing, one encounters an icy crust, and there is no possible way of stopping. With one swoop one goes until he strikes the wall of a crevasse or bergschrund, and then—well, it does not matter.

Persons addicted to heart trouble should undertake violent exertion and quick changes of atmospheric pressure. It may put an end to their trouble. For the same reason those without physical force to resist fatigue and cold weather should undertake long climbs. This is a tiresome end, however, and the least desirable.

Getting struck by lightning is not so easy. The unhappy porter, Casoli, who was struck on the summit of Mont Blanc and charred from head to foot, lived three days. The guide Joseph Simond, also, was killed by lightning while descending the Aiguille du Géant with the guide Joseph Ravanel and M. Fontaine, the celebrated French alpinist. Simond was the only one carrying an ice-axe. Take note, therefore, tourists, and when in the midst of an electrical disturbance seize the steel ice-axe!

Breaking rope played a fatal part in the catastrophe on the Matterhorn when Lord Francis Douglas and three others were killed. Moral: Do not take old rope, for it might not break.

Falling stones have killed more than one in the Alps.

In the early morning, when everything is frozen tight, falling stones are rare. It is in the afternoon, when the sun is melting hot, that the silence is continuously broken by their dropping. Amateurs when amusing themselves in such places should do so in the afternoon when the sun is hot!

One may easily get killed by ignoring verglas, crevasses, bergschrunds and snow-bridges. Particularly the latter are recommended to novices. Guides see them in advance by a peculiar dip in the surface snow, or else search for them by poking continuously in advance with the end of their ice-axes. Amateurs may find them, however, without this trouble. They step on one, the snow-bridge gives way, a piercing cry, and all is over!

Finally, in choosing a guide for excursions always take an inveterate drinker. Dr Hunter Workman, the famous Himalayan explorer, told me not long ago that when in the Alps he unwittingly was fortunate enough to get caught in a difficult passage with one who was taken with delirium tremens. Dr Workman, although he turned guide, failed to get killed, and has not yet forgotten his sensation.

For those who know nothing of the mountains, and who continue lusting for the flesh-pots, there is left always the climbing receipt of Mark Twain:

Hotel veranda! Bottle of whisky! Telescope!

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